

Exhibits to Roetter Supplemental Declaration

AT&T M2M (Machine to Machine) Communications Snapshot

<p>The What</p>	<ul style="list-style-type: none"> • As a leader in machine-to machine (M2M) communications, AT&T is helping to lead the emergence of the real-time, adaptive enterprise. Our goal is to help drive wireless capabilities into a wide variety of devices beyond traditional handsets, allowing our business customers to reduce operational costs and enable new revenue opportunities. • AT&T defines M2M communications as a set of networking and IT technologies, which connects the physical systems of the world. (Such as power meters, trucks, containers, cars, pipelines, wind farm turbines, vending machines and any electronic device which would benefit from 2-way communications.) • AT&T uses Network, Service and Application Delivery Platforms with Expertise, Experience, Alliances and Professional Services to enable deployment of M2M solutions that fit customers' needs across a range of industries.
<p>The Why</p>	<ul style="list-style-type: none"> • According to ABI Research, "cumulative cellular M2M connections will rise from about 110 million connections in 2011 to approximately 365 million connections by 2016." [Source: ABI Research, Cellular M2M Connectivity Services, December 30, 2011.] • Through the Emerging Devices Organization (EDO), AT&T is mobilizing everything by embedding wireless capabilities into new categories of devices – eReaders, dog collars, pill caps, photo frames, car ignition switches, smart meters and more. Connecting to the mobile internet changes the fundamental nature of a device, giving it new features and capabilities that make it better and more useful. • Our Advanced Mobility Solutions organization helps enterprise customers select, build, integrate, deploy, and manage M2M solutions to lower operational costs and develop new revenue opportunities. • AT&T M2M technology allows businesses to sense issues with their machines and assets, analyze the problem using backend software, and respond the situation in a quick and cost-effective manner. • AT&T services simplify deployment of M2M wireless solutions by providing expert assistance and tools to help define, build, integrate, deploy and manage the cost-effective M2M solution that's right for each of our business customers. • We continue to invest in our M2M service delivery and application platforms to fully automate service provisioning and billing, while optimizing troubleshooting, application integration, and managed services. <ul style="list-style-type: none"> ○ Enterprise On-Demand is a comprehensive online environment

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	<p>for ordering, real-time activation, online trouble ticket management and reporting</p> <ul style="list-style-type: none"> ○ AT&T Control Center, powered by Jasper Wireless helps companies manage large-scale wireless deployments by delivering real-time access and leading-edge development, management and diagnostic tools to reduce operational expenses, address new revenue streams and improve time to market for new categories of connected devices on AT&T's network. <ul style="list-style-type: none"> • To support multinational enterprise customers and connected device manufacturers, AT&T provides a single SIM that offers expansive global coverage. The SIM, along with AT&T Control Center powered by Jasper Wireless, gives businesses and M2M suppliers the ability to manage global wireless device deployment and operations across markets. • AT&T helps orchestrate hardware, connectivity, platforms, applications, infrastructure, professional services, and managed services for custom M2M solutions. • With millions of endpoints already connected, our customers recognize AT&T's success in developing an ecosystem to serve enterprise needs.
<p>Stats & Facts</p>	<ul style="list-style-type: none"> • AT&T has one of the world's most advanced and powerful global backbone networks, which carries more than 28.9 petabytes of data traffic on an average business day and includes more than 917,705 fiber route miles worldwide. • AT&T offers the broadest international coverage of any U.S. wireless carrier, delivering data service in more than 200 countries through roaming agreements. • AT&T has been serving the M2M market for more than a decade, supporting millions of M2M end points. We ended 2011 with 13.1 million connected devices on our network. • AT&T has certified 1,200 varieties of connected devices, with labs dedicated to bringing new devices to market, global roaming and integrated SIM provisioning, billing and reporting tools. • In March 2012, Current Analysis honored AT&T with the highest possible rating (5 stars) in Global M2M Services and Strategies. [Source: Current Analysis, "Product Assessment: AT&T - Global M2M Services and Strategies", March 2012.] • According to Frost & Sullivan, "AT&T continues to be a market leader in the U.S. cellular M2M communications market." [Source: Frost & Sullivan,

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	<p>"U.S. Cellular M2M Communications Market", May 2011.]</p> <ul style="list-style-type: none">• AT&T was ranked as the preferred carrier sales channel for M2M solutions in a survey of IT decision-makers who use or plan to use M2M services. [Source: Yankee Group Anchor Report, "A Closer Look at M2M Carrier Strategy", December 2010.]
Additional Resources	<ul style="list-style-type: none">• AT&T Enterprise Mobility• AT&T Mobility Solutions Media Kit• AT&T Machine-to-Machine Solutions



EXHIBIT SEPARATOR PAGE

CARRIER-CLASS PUBLIC WI-FI FOR 3G/4G OFFLOAD



The ubiquity of Wi-Fi and the proliferation of dual-mode smartphones and tablets present a major opportunity for mobile operators to offload data and video traffic from their increasingly congested 3G and 4G cellular networks, as well as to offer a subscription service for users with Wi-Fi-only devices.

The opportunity extends to virtually any venue where people congregate, including airports, hotels, restaurants, hospitals, schools, auditoriums, stadiums, and more. In other words: Just about anywhere indoors and outdoors.

Aruba's carrier-class Wi-Fi solution, used by many of the world's largest mobile operators, combines high performance and high reliability with industry-leading ease of deployment and management to support mobile operators' data offload initiatives.

Aruba's comprehensive and versatile Wi-Fi solution is purpose-built for centralized management of remote hotspots and hot zones. Deploying Wi-Fi access points (APs) is remarkably simple with Aruba's cloud-based auto-provisioning, while centralized management for multiple remote locations simplifies ongoing operation.

THE OFFLOAD OPPORTUNITY

The amount mobile data and video traffic is exploding owing to the growth in bandwidth hungry applications. Smartphones and tablets are great for subscribers, but are creating a real problem in 3G and 4G cellular networks.

The increasingly frequent congestion is causing poor performance and service disruptions. Users call to complain about poor video quality or slow downloads. Deploying more and smaller cells is one solution to the problem, but limited and costly licensed spectrum makes this approach prohibitively expensive.

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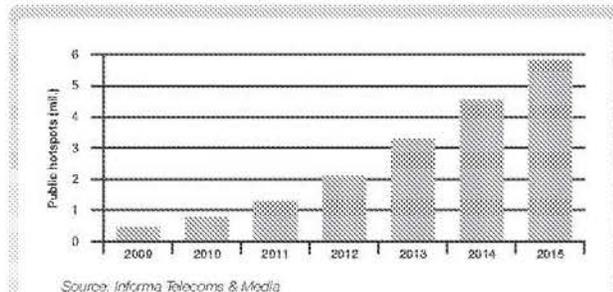
THE ARUBA ADVANTAGE

Aruba's scalable and flexible wireless networking solution is being used by mobile operators around the globe to offload 3G/4G traffic to Wi-Fi hotspots and hot zones.

- Highly scalable, secure and resilient deployment architecture with controllerless Aruba Instant or Mobility Controllers. Scales from sites with a single AP to high density stadiums and even entire cities with unified access policy and network management.
- Aruba Activate™ for zero-touch AP provisioning, automated firmware upgrades and inventory management, provided at no cost to operators.
- Adaptive Radio Management™ technology automatically optimizes Wi-Fi client performance and ensures that APs stay clear of RF interference.
- Integrated spectrum analysis enables APs to identify all sources of RF interference.
- Policy Enforcement Firewall™ that utilizes contextual information – user, device, location, time and applications – to enforce network access policies and enable operators to deliver secure, differentiated services.
- ClearPass for granular access policy and sophisticated guest access management.
- AirWave™ for centralized monitoring and management of multivendor wired and wireless networks across multiple remote locations.
- Support for the Hotspot 2.0 and the Wi-Fi-certified Passpoint program to ensure seamless integration with the mobile operator's core network.

Mobile operators have now embraced a far more cost-effective solution: Wi-Fi. Successful deployments to offload 3G and 4G traffic have proven that a Wi-Fi network can be a carrier-class solution that is just as reliable as a cellular network, while offering substantially more capacity.

ARUBA
networks



The Wireless Broadband Alliance reports that eight of the ten largest mobile operators have already deployed public Wi-Fi hotspots, while Informa Telecoms & Media predicts mobile operators will have deployed 5.8 million such sites worldwide by 2015.

A successful Wi-Fi offload strategy for mobile operators requires:

- Identifying and securing the optimal locations for deployment.
- Having complete visibility into and control over the Wi-Fi network.
- Providing hassle-free, secure and automatic subscriber authentication to the Wi-Fi networks.
- Delivering walled-garden and value-added services to monetize the connectivity options.
- Ensuring reliable and secure operation to deliver the best quality of experience.

Aruba's Wi-Fi offload solution meets all of these requirements, and more, enabling mobile operators to offer Wi-Fi as a profitable service.

WI-FI AS A SERVICE

Aruba is committed to making mobile operators successful deploying and operating public Wi-Fi hotspots and hot zones. Aruba's carrier-class Wi-Fi solution provides the performance, reliability, scalability, and versatility mobile operators need to offload their 3G/4G networks.

From the smallest hotspots in quick-serve restaurants to the largest hot zones in airports and even entire cities, Wi-Fi access solutions from Aruba are the industry's easiest to provision and manage, and include a rich assortment of value-added services to maximize the profit potential.

Simplified deployment and provisioning

Controllerless Aruba Instant™ APs with Aruba Activate™ zero-touch provisioning dramatically reduce deployment time, and automate firmware upgrades and inventory management. Aruba Instant is the first controllerless Wi-Fi solution capable of delivering the simplicity and dependability mobile operators need.

With Aruba Activate, when a hotspot's single Instant AP is powered up, it is provisioned and configured automatically. For hot zones requiring multiple APs, the first one installed automatically distributes the network configuration over the air to all other APs. The entire process takes only about five minutes, and there are no ongoing fees to pay.

Larger hot zones, including those outdoors, can take advantage of Aruba's large assortment of APs, and remotely-managed Mobility Controllers and Mobility Access Switches. With a choice of entry-level and high-performance indoor models, as well as outdoor models backhauled via a resilient wireless mesh network, Aruba has an AP suitable for any need.

Highest possible performance

With Aruba's Adaptive Radio Management™ (ARM) technology, mobile operators get maximum performance with minimal or no manual intervention. ARM™ automatically and continuously ensures that every Wi-Fi device associates with the optimal AP at its optimal power setting and on the optimal channel, making ARM the most effective RF management technology available today.

ARM's airtime fairness algorithms ensure equal access for all subscribers, while airtime performance protection prevents slower clients from monopolizing available bandwidth. Together these capabilities maximize the quality of experience for all subscribers, all of the time.

Aruba has the only wireless infrastructure with the noise-, client- and application-awareness needed to optimize Wi-Fi performance without any on-site intervention. This enables mobile operators to focus instead on increasing revenue by offering more value-added services and applications.

Value-added services for incremental revenue

The Aruba ClearPass Guest visitor management can be branded and customized, and includes support for advertising, credit card billing, business analytics and security services. ClearPass Guest gives operators the opportunity to provide advertising, deliver coupons or special offers, collect demographic information and deliver targeted content – all of which are useful in monetizing Wi-Fi.

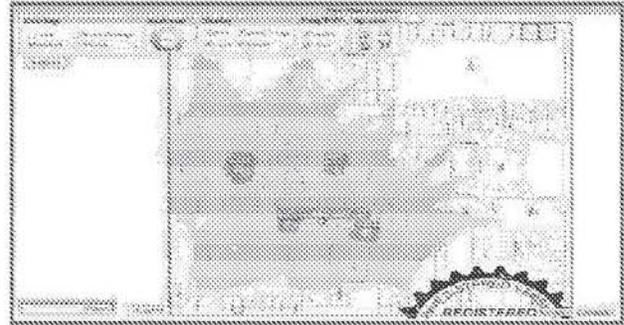
Aruba's integrated Policy Enforcement Firewall™ provides both the stateful protection and context awareness needed to enable mobile operators to offer secure, differentiated services based on user role, type of subscription, device, application or location. The firewall constantly monitors users and their devices, and uses this contextual information to enforce all access policies without requiring complicated network re-engineering.

Comprehensive centralized network management

Aruba AirWave™ network management provides full visibility of and complete control over the entire multivendor wired and wireless infrastructure from the mobile operator's network operations center.

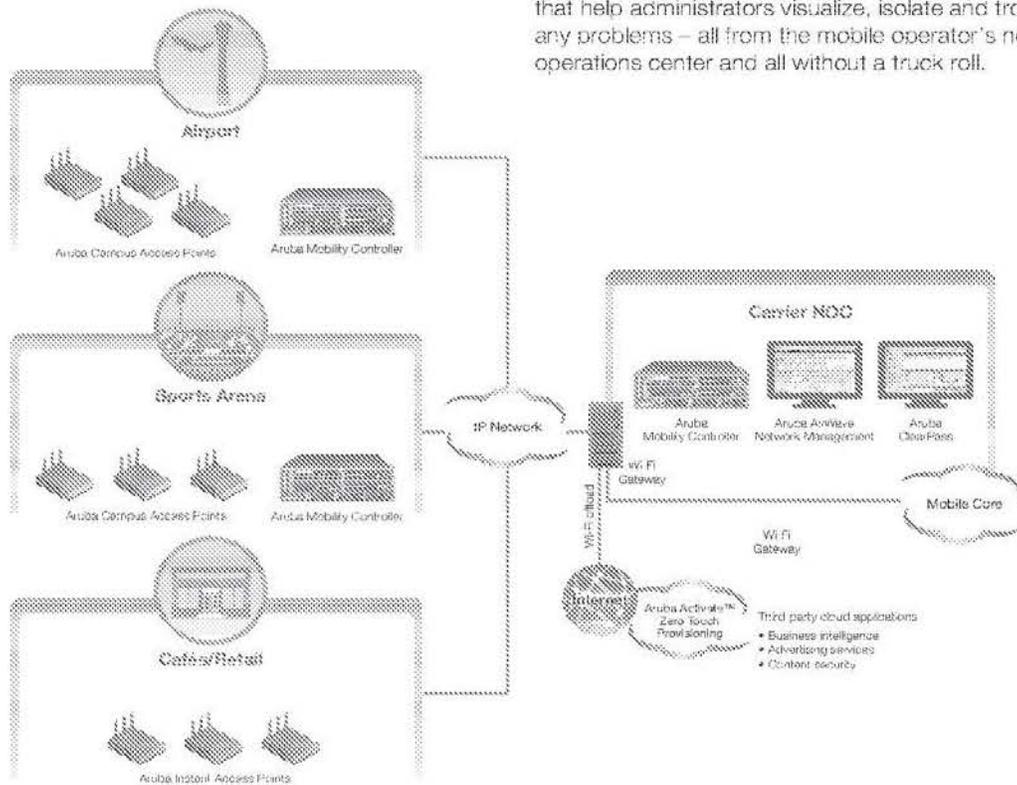
With AirWave, mobile operators are able to manage everything that affects service quality across multiple remote locations – from the wired LAN connecting APs to which devices are connecting via which channels to which APs.

AirWave also streamlines network operations with user location and mapping, real-time monitoring, proactive alerts, historical reports, and advanced remote troubleshooting capabilities.



Aruba's VisualRF™ provides network operations staff with a customizable, real-time view showing signal quality, data rates and device locations.

Aruba even makes it easy to centrally troubleshoot RF interference in the unlicensed spectrum. The Aruba RFProtect™ Spectrum Analyzer continuously scans and analyzes the full spectrum, and generates spectrograms that help administrators visualize, isolate and troubleshoot any problems – all from the mobile operator's network operations center and all without a truck roll.



Aruba offers a complete edge-to-core solution for offloading 3G/4G networks with high-performance Wi-Fi hotspots and hot zones.

Seamless integration to the mobile core

Aruba's carrier-class Wi-Fi solution provides seamless integration with the operator's mobile core for authentication, unified policy management and secure delivery of walled-garden services.

Communications between the Wi-Fi infrastructure and Wi-Fi gateways that interface with mobile core elements are secured via GRE/IPsec tunnels. Aruba has strategic partnerships with leading Wi-Fi gateway vendors and authentication/policy management solutions.

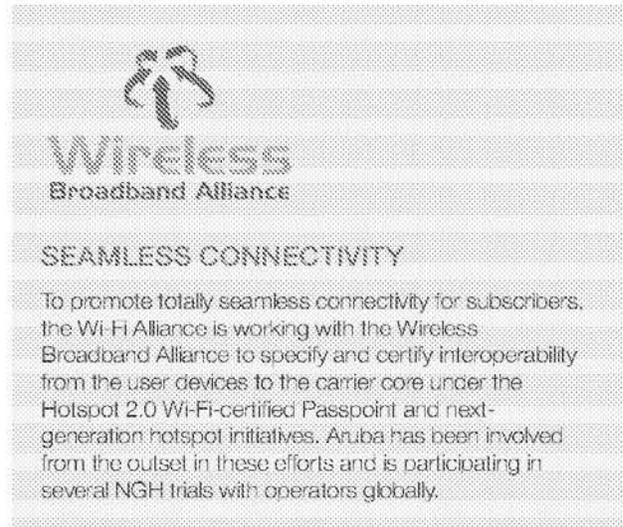
The end-to-end carrier-grade Wi-Fi solution leverages Aruba's core capabilities including the ability to gain real-time information on the RF network. This enables operators to design and deliver secure, intelligent and policy-driven traffic offload.

CONCLUSION

Most mobile operators are already participating in the land grab for the best Wi-Fi hotspot and hot zone venues, and Aruba has both the industry-leading technology and proven best practices to maximize success in this ongoing endeavor. Aruba's solutions provide operators complete visibility into and control over the Wi-Fi network, as well as a platform to deliver and monetize value-added services.

Simple deployment with auto-provisioning. Comprehensive centralized management. The flexibility and scalability to meet the needs in any venue – large or small. Aruba Networks is the perfect partner for offloading 3G/4G traffic onto Wi-Fi hotspots and hot zones.

www.arubanetworks.com/serviceprovider



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EXHIBIT SEPARATOR PAGE

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Office of Engineering and Technology and)	ET Docket No. 15-105
Wireless Telecommunications Bureau Seek)	
Information on Current Trends In LTE-U and)	
LAA Technology)	

COMMENTS OF AT&T

I. INTRODUCTION

AT&T Services Inc. (“AT&T”), on behalf of the subsidiaries and affiliates of AT&T Inc. (collectively, “AT&T”), hereby submits the following comments in response to the Federal Communications Commission’s (“Commission”) Public Notice (“*Public Notice*”) in the above captioned proceeding.¹ The *Public Notice* seeks comment on a range of issues related to the development of commercial wireless Long Term Evolution (“LTE”) technology intended for operation in unlicensed frequency bands. AT&T welcomes the opportunity to provide comments on LTE unlicensed issues as the Commission endeavors to foster a robust and fully participatory discussion of recent trends and developments in this space.

As an initial matter, as the Commission starts to build a record evaluating LTE solutions for unlicensed bands and their impact on other spectrum uses, it should proceed with a clear and concrete understanding of certain key terms. In particular, the Commission should understand that there are two different versions of LTE in development for use in unlicensed spectrum: LTE-Licensed Assisted Access (“LTE-LAA”) and LTE-Unlicensed (“LTE-U”). By delineating

¹ *Office of Engineering and Technology and Wireless Telecommunications Bureau Seek Information On Current Trends in LTE-U and LAA Technology*, Public Notice, ET Docket No. 15-105, DA 15-516 (May 5, 2015) (“*Public Notice*”).

and understanding the characteristics and parameters of each type of LTE, interested parties will be able to provide precise and accurate input.

Use of LTE-based technology in unlicensed spectrum may offer a cost-effective and spectrally efficient way to help address the sky-rocketing demand for mobile broadband, though it cannot take the place of additional licensed spectrum. Through carrier aggregation, LTE unlicensed may allow carriers to gain additional network capacity by combining LTE in unlicensed bands with LTE in licensed bands. In turn, wireless operators will be able to offer consumers seamless user experiences across unified networks. With these important public interest benefits, the Commission should reject calls to prejudice this nascent technology by excluding it from unlicensed bands.

Further, to the extent the Commission may consider adopting rules related to LTE use of unlicensed spectrum, it should continue to adhere to its technology-neutral approach to spectrum policy. The Commission has historically remained committed to pursuing technology-neutral regulatory frameworks that treat different technologies equally. This approach has proven successful, allowing diverse technologies to flourish and innovation to thrive. With these successes, there is no reason for the Commission to depart from its past precedent and mandate any form of technical standards that explicitly or implicitly prefer one technology over another.

AT&T applauds the Commission for launching this proceeding and furthering its commitment to facilitating transparent discussions about new technologies. By taking the steps advocated herein, the Commission will promote a solid foundation for exploring the implementation of new and innovative LTE unlicensed technologies, ultimately ensuring that spectrum is put to its best and highest use.

II. INDUSTRY IS CURRENTLY EVALUATING TWO DIFFERENT TYPES OF LTE-BASED TECHNOLOGIES FOR UNLICENSED USES

Although a number of organizations have approached the Commission about deploying LTE technology in unlicensed spectrum, standard definitions of key terms have not yet been established.² To this end, the *Public Notice* references both “LTE-U” and “LTE-LAA” but does not provide a precise definition for either term.³ As it launches this proceeding to examine use of LTE technology in unlicensed spectrum, the Commission should begin by understanding what each of these terms is intended to mean and how those terms are used in the various standards bodies and industry organizations. Setting forth clear terms that are used consistently will help avoid confusion, allowing participants in this proceeding to comment in greater detail on the implications of the use of LTE in unlicensed spectrum on other spectrum uses. With the potential for use of LTE in unlicensed spectrum still in its nascent stage, clearly defining the key terms at issue will also be critical to helping interested parties understand the range and specifications of the technologies being developed and considered.

As an initial matter, as AT&T understands it, the umbrella term “LTE unlicensed” refers generally to the use of Long Term Evolution platforms in unlicensed spectrum bands. In this context, LTE unlicensed offers the opportunity to gain additional capacity by combining LTE in unlicensed bands with LTE in licensed bands through carrier aggregation. Once aggregated, the licensed spectrum anchors the control and signaling information, freeing LTE unlicensed frequencies for more efficient and robust uses.⁴

² *See id.* at 1.

³ *See id.*

⁴ *See* Letter from Mark Racek, Director, Spectrum Policy, Ericsson, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 12-354, at 2 (Apr. 10, 2015)

There are currently two different versions of LTE unlicensed in development.⁵ The first, LTE-License Assisted Access (“LTE-LAA”), is being worked through the 3GPP standards process (under Release 13) and will incorporate listen-before-talk and other capabilities to ensure that LTE-LAA can coexist effectively with other unlicensed uses.⁶ Once standardized by the 3GPP, LTE-LAA will offer a standards-compliant global solution. The second, confusingly known as “LTE-Unlicensed” or “LTE-U” is a specification developed by the LTE-U Forum and uses a different mechanism to manage co-existence through an on-off duty cycle—carrier-sensing adaptive transmission (“CSAT”)—between LTE and other unlicensed uses.⁷ Unlike LTE-LAA, LTE-U is not a global solution because it does not implement the listen-before-talk mechanism required by other countries.

(“Ericsson *Ex Parte*”) (noting that LTE unlicensed technologies aggregate spectrum to improve speed and performance).

⁵ See generally Letter from Edgar Figueroa, President and CEO, Wi-Fi Alliance, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 12-354, at 2 (Apr. 10, 2015) (“Wi-Fi Alliance *Ex Parte*”) (explaining the differences between LTE unlicensed approaches).

⁶ Wi-Fi uses either the Distributed Coordination Function (“DCF”) or Enhanced Distributed Channel Access (“EDCA”) to comply with the listen before talk requirements. DCF uses carrier sensing along with a four way handshake to maximize the throughput while preventing packet collisions. See e.g., <http://www.vocal.com/networking/802-11-distributed-coordination-function-dcf/> (last visited May 27, 2015). EDCA is implemented in more recent Wi-Fi standards and allows for enhancements to the DCF methodology. See http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/emob4ldg/emob4ldg-wrapper/ch5_QoS.html#wp1021972 (last visited May 27, 2015) for technical descriptions of DCF and EDCA.

⁷ CSAT is used to apply adaptive TDM transmission to LTE-U small cells, based on long-term carrier sensing of co-channel Wi-Fi activities. In CSAT, the small cell senses the medium for longer (than LBT and CSMA) duration (around tens of milliseconds to 200 milliseconds) and according to the observed medium activities, the algorithm gates off LTE transmission proportionally. See e.g., Qualcomm Technologies, Inc., *Qualcomm Research LTE in Unlicensed Spectrum: Harmonious Coexistence with Wi-Fi*, at 6 (Jun. 2014), available at <https://www.qualcomm.com/documents/lte-unlicensed-coexistence-whitepaper>.

At this time, the different LTE-U and LTE-LAA coexistence techniques are still being designed and analyzed. The 3GPP standards require LTE-LAA to share with neighboring Wi-Fi systems at least as well as another Wi-Fi system would. Unlicensed LTE solutions will continue to be evaluated on this basis going forward.

By defining the differences between LTE-U and LTE-LAA with particularity, the Commission will help facilitate a more informed dialogue about the development of LTE unlicensed. In addition to minimizing confusion, proceeding with clearly defined terms will ensure that the Commission develops a robust and precise record that reflects meaningful input on how LTE technology may be implemented and impact other spectrum uses.

III. THE USE OF LTE-BASED TECHNOLOGY IN UNLICENSED SPECTRUM MAY HELP ADDRESS THE SKY-ROCKETING DEMAND FOR MOBILE BROADBAND

While LTE unlicensed will not replace the need for exclusively licensed spectrum, it is a promising new technological development that offers the opportunity to address consumers' escalating need for mobile broadband. In particular, by deploying LTE in unlicensed bands, mobile operators may be able to expand their network capacity in a cost-effective and simple manner. LTE unlicensed can use advanced LTE technology to aggregate spectrum to improve speed and performance. As such, LTE unlicensed provides an option for "traffic offloading, providing system control, performance, and integration with the licensed carrier's network."⁸ LTE unlicensed is still undergoing testing and development, but once it is standardized in 3 GPP LTE Release 13, it will offer a global solution.

Some parties have opposed use of LTE unlicensed, arguing that it would "raise barriers to entry" across unlicensed spectrum bands "by tying the use of [unlicensed] spectrum to carriers'

⁸ Ericsson *Ex Parte* at 2.

existing licensed spectrum portfolios.”⁹ Others have expressed concern that allowing LTE unlicensed could displace Wi-Fi currently operating in unlicensed bands.¹⁰ The FCC should reject these arguments. There is no reason to prejudice the development and deployment of an efficient technology, particularly, where, as here, it can operate harmoniously with other spectrum uses. As an initial matter, LTE unlicensed will operate as a complement, not an alternative, to Wi-Fi. LTE unlicensed will allow increased spectral efficiency and capacity, ultimately benefiting the needs of consumers. Further, as discussed more fully below, it is not the Commission’s role to make and mandate technology choices. Rather, the Commission should establish and adhere to technology neutral approaches that allow different technologies to work together. Market forces should be allowed to evaluate the utility of LTE unlicensed solutions without the Commission tilting the scales in favor of other technologies.

IV. THE COMMISSION SHOULD ADOPT RULES THAT ARE TECHNOLOGY-NEUTRAL

As the Commission notes, it has “historically adopted rules that are technology neutral and remains committed to this policy.”¹¹ Indeed, the Commission has long recognized that it is not the Commission’s job to “pick winners or losers, or select the ‘best’ technology to meet consumer demand, but rather to ensure that the marketplace is conducive to investment,

⁹ Letter from Rick Chessen, Senior Vice President, Law and Regulatory Policy, National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 12-354, at 2 (Feb. 27, 2015) (“NCTA *Ex Parte*”).

¹⁰ *See generally*, Letter from Kurt Schaubach, Chief Technology Officer, Federated Wireless, Inc. to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 12-354, at 7 (Mar. 4, 2015).

¹¹ *Public Notice* at 2.

innovation, and meeting the needs of consumers.”¹² Along these lines, the Commission has expressed a strong preference for technology-neutral rules, noting that the public interest would not be served if it adopted “technical requirements that would tend to favor one technology over another.”¹³ AT&T agrees with the Commission that there is no reason to depart from this neutral approach as it considers whether and how to facilitate and promote LTE unlicensed operations.

Pursuing a technology-neutral regulatory framework is particularly appropriate, where, as here, technology is rapidly evolving and standards setting organizations continue to develop new advancements and systems. The Commission’s technology-neutral approach to spectrum policy has a proven track record of success, enabling new technologies and innovation in spectrum efficiency, ultimately cementing the United States’ place as at the forefront of wireless services.¹⁴ With this clear success story, the Commission should resist calls to favor specific types of technologies. Instead, the Commission should embark upon a neutral path that allows different technologies to coexist efficiently.¹⁵ By adhering to its longstanding preference for technology-neutral rules, the Commission will foster innovation and promote experimentation.

¹² *Deployment of Wireline Services Offering Advanced Telecommunications Capability, Memorandum Opinion and Order and Notice of Proposed Rulemaking*, 13 FCC Red 24011, 24014 ¶ 2 (1998).

¹³ *Service Rules in the Government Transfer Bands*, Report and Order, 17 FCC Red 9980, 10030-31 ¶ 123 (2002); *see also Legal and Regulatory Framework for Next Generation 911 Services*, Report to Congress and Recommendations, 2013 WL 771885 at 41-42 (Feb. 22, 2013) (advocating a technology neutral approach to Next Generation 911 systems that focuses “on the functionality and/or outcome of a service or tool, rather than the tool or service itself, which is simply used to achieve an outcome.”).

¹⁴ *See* Letter from Steve B. Sharkey, Chief Engineering and Technology Policy, Federal Regulatory Affairs, T-Mobile, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 12-354, at 1 (Apr. 9, 2015) (“T-Mobile *Ex Parte*”).

¹⁵ *See* *Ericsson Ex Parte* at 3 (“The selection of technology should be a market based decision according to its relevance to the associated business models and use cases.”).

Consistent with its well-established technology-neutral preferences, the Commission should not look to mandate technical standards as LTE unlicensed is explored and deployed. At this time, the Commission should allow standards setting organizations such as 3GPP to continue evaluating and testing LTE unlicensed and any associated coexistence issues.

V. THE STANDARDS BODIES ARE CAPABLE OF RESOLVING ANY INTERFERENCE ISSUES AND REGULATORY INTERVENTION IS NOT NEEDED

LTE-based technologies for use in unlicensed spectrum bands are still being developed and tested. At this nascent stage, standards bodies like 3GPP should be allowed to continue their important work without any regulatory intervention. Rather than imposing mandates or taking action that may favor one kind of technology over another, the Commission should simply continue to encourage standard-setting organizations to develop LTE unlicensed solutions that will help use spectrum more efficiently to meet escalating consumer needs.

Standard-setting bodies, in consultation with stakeholders, are best positioned to continue studying the technical issues associated with LTE unlicensed solutions. As the Commission notes, 3GPP is still working to develop LTE-LAA standards.¹⁶ The Commission should allow these important technical processes to unfold before it takes any action with respect to LTE unlicensed. By allowing these bodies to complete their processes, the Commission will avoid prematurely prejudicing the development of LTE unlicensed.

¹⁶ *Public Notice* at 1.

VI. CONCLUSION

AT&T appreciates the opportunity to provide comments at this early stage on current developments and trends in LTE unlicensed. By seeking comments now, the Commission will help foster a meaningful discussion among parties interested in understanding and evaluating the potential impact associated with deploying LTE unlicensed. AT&T believes that by recognizing the two different types of LTE unlicensed, the Commission will promote more detailed and informed discussions about the role such technologies may play in spectrum policy going forward. In the spirit of innovation, the Commission should also adhere to its technology-neutral approach to technical rules, declining to favor specific types of technology by mandating technical requirements. The Commission should allow standards-setting organizations to continue studying and standardizing LTE unlicensed.

Respectfully submitted,

By: /s/ William L. Roughton Jr.

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Dated: June 11, 2015

EXHIBIT SEPARATOR PAGE

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Re: Applications of AT&T Inc. and DIRECTV for Consent to Assign or Transfer
Control of Licenses and Authorizations, MB Docket No. 14-90

Comment of MFRConsulting
MFRConsulting
144 Beacon Street
Boston, Massachusetts 02116-1449
Author: Martyn Roetter, mroetter@gmail.com, (617) 216-1988

April 29th, 2015

AT&T and DirecTV – Causes for Alarm, Skepticism, & Rejection

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Summary

In the aftermath of Comcast's abandonment of its proposed acquisition of Time Warner Cable, a growing wave of opinion has arisen that the acquisition of DirecTV by AT&T is, or should be, on a path to approval. The basis for this opinion is that the potential anti-competitive consequences of this proposed merger and the harm to consumers are less serious than those of the now abandoned merger of the two largest cable operators, because, for example, DirecTV is not a competitor in the broadband access market.

Furthermore, according to AT&T, the merged company will be in a stronger position to expand its high speed broadband coverage for the benefit of consumers and broadband competition in some areas in the US, because the resulting enlarged presence of the merged entity in the video market will free resources, and achieve savings, that can be applied to increase broadband investment.

This document argues that, to the contrary, this merger, like the Comcast/TWC deal, will also have significant anti-competitive consequences and will not benefit consumers for three reasons:

1. AT&T's long record, and continuing behavior and actions, demonstrate that it cannot be trusted to keep any commitments it makes about increased investments, or adhere to conditions that it agrees to, in order to secure approval of the DirecTV transaction;
2. AT&T's strong position in the mobile market ensures that the repercussions of this transaction, if approved, will, unlike the Comcast/TWC deal, adversely impact the wireless or mobile market, in addition to the fixed broadband and video markets, especially in rural regions – moreover, it will send a signal that AT&T's continued flouting of existing FCC rules, such as those embedded in the 2011 Data Roaming Order, do not have any negative consequences for how this powerful operator is viewed and treated in adjudicating controversial regulatory issues and disputes;
3. Approval of this transaction will encourage AT&T to pursue its relentless campaign in which it is employing unsubstantiated, and even demonstrably false, claims and arguments in its bid to remove any effective regulation of its business practices (i.e., leave it free to operate in one of its favorite phrases at its "sole discretion"), with the aim of establishing an environment in which it is effectively unregulated, and free from the obligations that traditionally accompany privileged access to, and use of, scarce public resources, such as it has enjoyed for decades.

It is time for AT&T to prove by its actions, not just words that it then ignores, that it is prepared to be trustworthy and has changed the character and drivers of its decisions that have a substantial impact on competition in the markets in which it operates, and the customers it serves. These actions should reflect a reasonable balance between the priorities and needs of AT&T's shareholders, employees, customers, and the public interest, in contrast to objectives that have been, and remain today, severely skewed towards meeting the narrowly defined goals of a small subset of its stakeholders.

Meanwhile, for the reasons outlined above the AT&T/DirecTV transaction should be rejected in its entirety.

AT&T's (and its Predecessors') Record of Failing to Meet Commitments

There is a long and impressive – and depressing – record of AT&T's failure to meet its commitments about allegedly transaction-dependent increases in investments that it will undertake if its proposed transactions are approved, and/or its recommendations are accepted. This record has been amply documented, as a few examples demonstrate¹. It is a standard operating practice for AT&T - and the

¹ <http://www.teletruth.org/docs/SBCMergerharms.pdf>; <http://www.huffingtonpost.com/bruce-kushnick/atts-14-billion-dollar-br-b-2104100.html>; "The Impact of Title II Regulation of Internet Providers on Their Capital Investments," Kevin A. Hassett and Robert J. Shapiro, http://www.sonecon.com/docs/studies/Impact_of_Title_II_Reg_on_Investment-Hassett-Shapiro-Nov-14-2014.pdf (the misuse of statistics and the biased and sloppy thinking on which the finding of

experts it funds to support its assertions - to claim that if AT&T does not get its way with the regulators network investments will be reduced, while if its initiatives are approved and its recommendations accepted, they will be increased.

Moreover, during the nine year period from 2006-2014 AT&T spent a total of \$46.5 billion on stock repurchases and returned \$83.1 billion in dividends to its shareholders (i.e. almost \$130 billion combined), compared to total capital expenditures of \$163 billion.² The first two categories of expenditures make no contribution to improving the quality and coverage of the services AT&T provides to its customers, although they do substantially benefit the company's senior executives whose compensation is strongly linked to the performance of AT&T's stock (over 55% in the case of the CEO).

In light of these financial facts, the company's typical claim that the money it needs to make the additional investments it promises to undertake if a transaction is approved, are transaction-dependent, is unsustainable. If AT&T were pursuing a balanced and responsible strategy that took account of the needs of all its stakeholders, it would have no difficulty in finding the financial resources it needs to boost its broadband investments, even though it claims yet again as part of its standard playbook that increased investment in broadband will be a beneficial outcome of acquiring DirecTV³ that will not be possible if the transaction is rejected⁴.

AT&T's record of misrepresentations in support of its proposed transactions is not confined to investments. When AT&T's proposed transaction to acquire T-Mobile USA was under review, it argued that T-Mobile had no future as an independent company. This claim was rebutted on the basis of information available at that time and events since then have proved it to be false⁵.

There are solid grounds for expecting that true to its long established form AT&T will not honor the commitments it undertakes if its acquisition of DirecTV is approved and implemented. Hence AT&T's claims of the benefits

this report funded by AT&T is based have been exposed in MFRConsulting, "Spurious Correlations and Broadband Investment," <http://apps.fcc.gov/ecfs/document/view?id=60001044394>)

² Source: MFRConsulting analysis of AT&T's Annual Reports

³ See AT&T's redacted filing at <http://apps.fcc.gov/ecfs/document/view?id=60001044286>; the amounts involved over a four year period in making these investments would amount to a fraction of AT&T's run rate of stock repurchases and dividend payouts.

⁴ Remarkably at the time of the ultimately abandoned attempt to acquire T-Mobile USA in 2011 AT&T also claimed that one outcome would be an increase in its US investments, even though if this deal had been consummated AT&T would have sent \$25 billion in cash to Deutsche Telekom in Germany.

⁵ "T-Mobile USA: A Better Future without AT&T," BNA Daily Report for Executives, Oct. 6, 2011; http://news.yahoo.com/t-mobile-first-quarter-revenue-rises-beats-estimates-120343142..finance.html;_ylt=A0L8VvE1ps9Vx1MA7UEnnf0; <http://www.rewireless.com/20150428/carriers/t-mobile-us-p pressures-sprint-for-no-3-posts-industry-leading-q1-growth-tag2>

that consumers will enjoy as an outcome of this transaction should be dismissed.

Competitive Impact of AT&T's Acquisition of DirecTV

The competitive impact of AT&T's acquisition of DirecTV, that is part of the review of this proposed transaction to identify potential harm as well as benefits to competition and consumers, varies by geography. An important source of variation is by location depending on whether an area is served by AT&T's wireline facilities or not, and if served, whether AT&T offers or intends to offer, FTTN (fiber to the node)- or FTTP (fiber to the premise)-based U-verse TV and broadband service, or only DSL-based and generally video-incapable service. A significant competitive impact will be felt in the areas where AT&T has a wireline franchise. In total AT&T had about 75 million wireline locations including consumers and small business in 22 states as of 2012.⁶ As of 2015, after selling its wireline business in Connecticut in 2014, the number is probably slightly lower but perhaps around 73 million locations in 21 states, in other words a significant proportion of US customers for fixed telecommunications services.

In locations where AT&T offers and plans to offer terrestrial video services, its acquisition of DirecTV will reduce the number of independently competing video providers by one, from four to perhaps three (e.g. AT&T, Dish, and a cable operator). The effect of such a reduction in the number of video providers available to consumers could be significant.

In contrast, in areas where AT&T either does not have a wireline franchise or only offers low speed, video-incapable DSL service, the competitive impact of AT&T's acquisition of DirecTV is most likely to be felt by small mobile-only operators. This impact will add to the difficulties these mobile operators are encountering as a result of AT&T's intransigence in refusing to offer them reasonable roaming terms and conditions so that despite being geographically limited (in terms of their own licenses and hence facilities) they can provide competitive national coverage to their customers. By owning DirecTV AT&T will be in a position in these locations to deliver bundles of mobile and video services that can be particularly attractive to customers, especially in rural regions not served by cable. To the extent that customers prefer these bundles in contrast to separate providers of video and mobile services, their combination with the unattractive wholesale roaming services AT&T offers will further erode, and even destroy, the viability of independent small mobile-only operators that have traditionally been focused on the specific needs of rural customers.

It can be argued that mobile/video bundles such as a merged AT&T/DirecTV can provide will deliver benefits to customers, at least in the short term. Nevertheless the question arises of what is likely to happen if the effect is to foster the elimination

⁶ <http://www.att.com/gen/press-room?pid=23506&cdv=news&newsarticleid=35661>

of small, independent mobile operators from an area, and what AT&T is subsequently likely to do that will not be in the medium- and long-term interest of consumers once this competition is eliminated.

AT&T's Strategy of Eliminating and Circumventing Regulations

One of AT&T's favorite phrases inserted as often as it can into agreements it reaches is "*at its (AT&T's) sole discretion.*" This phrase betrays the key goal of AT&T's regulatory strategy, namely to free itself from any effective constraints on its actions and behavior. In pursuit of this goal the company propagates a number of claims that fall outside the boundaries of responsible judgments and opinions about which people of good faith can reasonably differ, or of honest endeavors to shed light on complex issues. AT&T's claims stray into the murky territory of evidence-averse or even evidence-rejecting propaganda. In the worst cases they involve dismissal of engineering knowledge and expertise and acceptance of mathematical impossibilities.

Examples of AT&T's use of fabricated facts and neglect of evidence that invalidates the positions the positions it advocates and the claims it makes include:

- **AT&T's funding of the discredited Hassett/Shapiro report and its finding that Title II reclassification of broadband will lead to a substantial reduction (up to over 30% and perhaps even more) in broadband investment**, and the filing of this report with the FCC by the industry association USTelecom, of which it is the largest member⁷
- **AT&T's persistent argument that the relative paucity of low frequency spectrum in T-Mobile USA's and other operators' license portfolios does not constitute a competitive disadvantage for them**, since allegedly the total costs to achieve national coverage including rural or coverage-limited areas are frequency-independent⁸. This argument is discussed in more detail below.
- **The industry association CTIA's repeated citing of a spurious metric of spectrum efficiency** as the basis for a claim that Verizon and AT&T are the two most efficient users of spectrum in the US, and indeed the world. Hence the CTIA and AT&T argue that in order to maximize the value created by and based on spectrum-based services these Big Two wireless operators should be allowed to acquire all the spectrum they wish without any attempt to ensure that other operators have access to enough spectrum to be able to

⁷ The USTelecom filing of the Hassett/Shapiro report is at http://ustelecom.org/sites/default/files/documents/EsParte_TitleII_Study_11.19.14_ph.pdf. As of April 28th 2015 no response has been forthcoming to the rebuttal of this report also filed with the FCC originally in mid-December 2014 and more comprehensively on April 22nd 2015, and communicated directly with its lead author.

⁸ Michael L. Katz, Philip A. Haile, Mark A. Israel, and Andres V. Lerner, "Comment On The Submission Of The U.S. Department Of Justice Regarding Auction Participation Restrictions," <http://apps.fcc.gov/ecfs/document/view?docId=7022425481>

compete (China Mobile is actually about three times more efficient than either US operator according to this metric, a calculation delivered to the CTIA to demonstrate the bogus nature of its metric that it has ignored).⁹

- **The CTIA's propagation of an easily misunderstood and disingenuously labeled statistic, namely "wireless-only" households** (the latest figure being over 40% of US households) whereas in reality many of these "wireless-only" households (that in effect refers to non-POTS (Plain Old Telephone Service) households) use wired connections for fixed broadband Internet access and IP (Internet Protocol)-based fixed telephone service. CTIA fails to clarify this point and its implications, leaving the impression generated by this statistic that wireless services can be an effective substitute for fixed services, which is untrue for broadband for most customers, although it is valid for voice for a growing number of consumers. This implication supports the false claim that the entire broadband market is vigorously competitive thanks to the presence of four or sometimes more mobile broadband operators in most locations in the US, whereas in reality fixed broadband services for which mobile broadband is not an alternative are supplied by a monopoly or duopoly in many locations¹⁰.

Economists hired by AT&T have produced the following astounding argument as to why an operator that holds only high frequencies in its portfolio of licenses (i.e. in practice near and above 2GHz in contrast to sub 1 GHz frequencies) is not at a significant economic and hence competitive disadvantage in achieving national coverage with its own facilities including rural and coverage-limited areas. They contend that¹¹:

"A fundamental lesson of economics is that market forces generally will equate the costs of substitutes. Here, this means that prices of different types of spectrum will adjust to equate the total costs of providing equivalent service (i.e., the rights for spectrum requiring greater facilities investment will tend to sell for less than rights to spectrum requiring less facilities investment)."

⁹ AT&T is the largest operator – and second largest wireless operator – that is a member of the CTIA and hence has substantial influence over its positions and the information it publishes. Although the specious nature of this spectrum efficiency metric has been publicized and communicated directly and on several occasions with the CTIA for over three years no acknowledgment or rebuttal of its discrediting has been forthcoming as of end April, 2015. See for example, "The Mystery of the Spurious Spectrum Efficiency Metric: Why Are America's Wireless Leaders Promoting a Meaningless Measure?" BNA Daily Report for Executives, May 31st, 2013; "A Flawed Metric of Spectrum Efficiency," <http://apps.fcc.gov/ecfs/document/view?id=7022418674>, and <http://apps.fcc.gov/ecfs/document/view?id=7022312454>

¹⁰ "The Top Ten Myths Major Broadband Providers Use Against Net Neutrality," Bloomberg BNA Daily Report for Executives, July 30, 2014 (see Myth No. 6). Also the data caps and price per GB (gigabyte) of the mobile data services offered by AT&T (and Verizon) make them impractical to use (especially for multi-user households) for video streaming and downloads that constitute the majority of Internet traffic.

¹¹ Michael Katz et al., *ibid.*

This assertion is not only **not** a fundamental lesson of economics, but directly contradicts the value and histories of a wealth of innovations over time in which new substitutes have been introduced and succeeded because they could provide the same value at lower cost, and/or even superior or additional value at equal or lower cost. Moreover it is refuted by ample evidence of the actual differences in prices paid to acquire low and high frequency spectrum that fail by large margins to compensate for the higher numbers and hence greater costs of deployment of more numerous base stations needed to cover rural areas at high as compared to generally more expensive low (sub-1 GHz) frequencies.

The alleged “fundamental lesson of economics” just cited, which is refuted by elementary calculations using actual prices paid for spectrum licenses and engineering costs of base station installations, is used to justify AT&T’s position that it is not reasonable to reserve some portion of the 600 MHz frequencies in the planned Incentive Auction for operators other than the current dominant holders of sub 1 GHz spectrum, i.e. AT&T and Verizon. Yet this lesson is neither fundamental nor does it represent a principle that can be derived from observations of the working of the economy. Besides readily available evidence proves that it is nonsense when applied to spectrum in different bands used in the deployment of mobile networks¹².

AT&T has persistently relied on fabricated evidence and/or ignored substantial evidence brought to its attention, if not known already, that contradicts its findings, claims and the regulatory policies it advocates.

How many of its representations in favor of approving the acquisition of DirecTV are similarly fatally flawed and not credible?

Other elements in AT&T’s current practices, behavior and statements that give rise to justifiable concern and skepticism about the company’s motivations and intentions, its attention to the interests of customers, and its willingness to establish commercially reasonable relationships with competitors and partners (especially those who inescapably depend on access to its facilities), include:

1. AT&T’s intransigent continued flouting of the FCC’s Data Roaming Order of 2011, in which it considers that that it is reasonable to extract wholesale prices from its roaming partners several times higher than the retail rate they can competitively charge their customers, so they will lose money on all these customers’ roaming, which can be significant for operators whose licenses cover only limited geographic areas¹³;

¹² Jonathan Baker, <http://apps.fcc.gov/ecfs/document/view?id=7520935909>; Information Age Economics, <http://apps.fcc.gov/ecfs/document/view?id=7520926985>

¹³ A considerable amount of evidence of AT&T’s behavior and practices regarding roaming both prior and subsequent to the promulgation of the Data Roaming Order is published in FCC Docket WT 05-265; reference to an ongoing complaint about AT&T’s roaming practices is at <http://apps.fcc.gov/ecfs/document/view?id=7521782211>

2. AT&T's unilateral introduction of non-interoperability within the Lower 700 MHz band after completion of the 2008 Auction of 700 MHz frequencies that left small operators unable in practice to find equipment and devices they could use to exploit their Lower Band Block A frequencies on behalf of their customers¹⁴. Achievement of interoperability is still a work-in-progress, more than seven years after the Auction¹⁵;
3. The language and attitudes expressed in multiple statements by AT&T and in its 2014 Annual Report about its reactions and intentions to overturn the FCC's Open Internet Order confirm its goal of eliminating any significant, or external sector-specific regulation of its activities¹⁶. AT&T is arguing in effect that any significant regulations cannot work *in practice*, and are not needed to achieve but will frustrate the desired outcome of enabling and sustaining effective competition and innovation and ensuring that customers' interests are served and protected. According to AT&T this outcome will instead be assured by following the *theory* of market forces to which AT&T is allegedly responsive as long as it is left to its own unregulated devices;
4. AT&T has a record of making contradictory and mutually conflicting statements and trying to have its cake and eat it too depending on the audience it is addressing – it is admittedly difficult for AT&T to keep track of and coordinate all the misrepresentations it makes at various times and in different forums to try to ensure that they are at least internally consistent even if incorrect or unsubstantiated¹⁷.

A few illustrative but not exhaustive and revealing examples of AT&T's contradictions of its own positions and attempts to have it both ways, i.e., exploit rights but ignore accompanying obligations are:

- **Broadband investment:** As noted above AT&T endorses the claim that Title II reclassification of broadband will lead to significant reductions in network

¹⁴ There is an extensive and lengthy body of evidence of the competitive harm caused by non-interoperability in FCC Docket WT 12-69; see also Information Age Economics, *ibid*.

¹⁵ Second Progress Report on AT&T Commitments, March 2015,

<http://apps.fcc.gov/ecfs/document/view?id=60061040690>

¹⁶ For example AT&T states in its 2014 Annual Report that the broadband market is "vigorously competitive" and reiterates the canards (p.5) that the FCC's Open Internet Order is antiquated and suitable only to the era of the rotary telephone, and is intended to "regulate the entire Internet." It confirms its intention to act aggressively to overturn this Order, including through the courts, although it has "endorsed the principles of net neutrality." We are all supposedly to take it entirely on trust that AT&T will adhere to these principles in the event that the Open Internet Order is overturned.

¹⁷ Consistency may be the last refuge of the unimaginative (or non-innovative) and opinions and findings may and sometimes should change, as new or better information is uncovered. However the number, frequency and timing of AT&T's inconsistencies are not evidence of its attention to changing circumstances and new facts and ideas, but of its willingness to say whatever seems most appropriate and will resonate best with each audience it is addressing, whether investors, the FCC, influential politicians, and other multiple interest groups, independently of the verifiable facts that are pertinent to the issues at stake.

investment, yet assures us that Title II will not deter it from investments it is promising to undertake.¹⁸

- **Value of low frequencies (sub-1 GHz):** As noted above AT&T has argued that it does not matter economically and hence competitively whether a mobile operator has no or little sub-1 GHz spectrum in its portfolio of licenses, yet it argues in support of its acquisition of Plateau Wireless that it will gain a significant performance and cost benefit by being able to deploy systems in wider 700 MHz channels after this acquisition.¹⁹
- **Impact of Title II:** AT&T has presented Title II reclassification of broadband as being an unmitigated mistake and a source of widespread potential harm beyond its alleged adverse effect on network investment.²⁰ Yet AT&T has always maintained that its IPTV U-verse service is not and should not be classified as a cable service²¹, and hence is not subject to cable franchise fees. Therefore the facilities over which U-verse services are delivered (the same facilities also deliver broadband access) fall under traditional rules for the placement and installation of telephone company networks, such as rights-of-way, that are part of Title II and incur lower fees. Furthermore in Austin, Texas, AT&T stated (revealing its attitude toward Title II and what it

¹⁸ <http://apps.fcc.gov/ecfs/document/view?id=60001044286> -

"FTTP facilitates a better, more compelling set of products, and AT&T expects FTTP to have a longer economic lifespan than FTTN and other prior wireline network technologies. Accordingly, as described in the record, AT&T concluded that it needs to invest in FTTP, where it is economically feasible to do so, to meet customer demand and compete with Cable DOCSIS 3.1 and Google Fiber. While the Commission's recent Title II order has added a level of uncertainty to the equation, this transaction does not in any way call AT&T's decision into question. To the contrary, the transaction furthers AT&T's FTTP strategy by making it possible to extend fiber to millions of additional customer locations. That is why AT&T has made it clear that it continues to stand behind each of the broadband commitments made at the time of the announcement of this transaction, even with the added uncertainty of the Commission's recent Title II order. AT&T has no plans to reevaluate FTTN for broader deployment post-merger."

¹⁹ <http://apps.fcc.gov/ecfs/document/view?id=60000871593> - *"A 10x10 MHz deployment of contiguous Lower 700 MHz B and C Block spectrum is more spectrally efficient than a deployment of two noncontiguous 5x5 MHz blocks. As discussed below, the 10x10 MHz deployment's wider bandwidth provides greater trunking efficiencies. Additionally, a 10x10 MHz contiguous block also benefits from signaling efficiency as many of the control overhead/messages (such as Physical Broadcast Control Channel, Shared Channel, etc.) need to be transmitted only once instead of twice, as would be the case for two non-contiguous 5x5 MHz blocks. These efficiency improvements result in higher system capacity and spectral efficiency and a better user throughput experience than is possible over two separate 5x5 MHz blocks."*

²⁰ AT&T 2014 Annual Report: *"But key policymakers in the administration and at the FCC are now going well beyond any previous concept of net neutrality. They are attempting to regulate the entire Internet under an arcane law called Title II that was written in 1934 to regulate the rotary dial telephone. We feel this antiquated approach will damage investment and damage the Internet itself. I won't belabor the point here, but you will see us continue to aggressively make the case to policymakers – and, if necessary, to the courts – that the FCC's proposed Title II regulation of the entire Internet is at best a solution in search of a problem and at worst a threat to the United States' continued global leadership in technology and innovation."* (Randall Stephenson, CEO)

²¹ <http://apps.fcc.gov/ecfs/document/view?id=60001042103>, an AT&T fling with the FCC dated (ironically) April 1st, 2015

considers to be legitimate practices with respect to competitors), that it did not have to provide Google Fiber with access to the poles (20% of the total in the city) that it owns. Austin's City Council, which owns the remaining 80%, drafted an ordinance to make AT&T open up the poles²².

It is also noteworthy that in its Public Interest showing²³ AT&T argues that it needs to acquire DirecTV in order to be able to compete in the video market against the scale of a combined Comcast/Time Warner cable business that will not now come to pass. **In other words while maintaining that its U-verse TV service is not a cable service, AT&T is also acknowledging that it is competing directly against the major cable operators in this market.**

The preceding observations illustrate that AT&T is waging a relentless campaign against any attempts by the FCC such as the Open Internet and Data Roaming Orders to formulate, and once formulated enforce rules of behavior that are pro-competitive and protect the interests of consumers and legitimate competitors against the immense market power that AT&T enjoys and is capable, if unchecked, of abusing. In this campaign facts, evidence and even engineering realities and the proper use of mathematical techniques are ignored and/or distorted by AT&T and the experts it funds if they conflict with the claims and assertions that AT&T decides to propagate to win support for its positions and the initiatives it decides to pursue.

AT&T's campaigns against the FCC are based on a combination of unsubstantiated and in some cases demonstrably false claims that it is constantly reiterating while ignoring substantial contradictory evidence that is publicly available and independently verifiable.

Conclusion

AT&T is a large and indispensable network operator with tentacles that extend throughout, and affect, our entire society and economy. Its contributions to the development and improvement of broadband networks in the US are, and will be, critical and even irreplaceable under any foreseeable circumstances. The company possesses and deploys immense financial, technical, engineering and other resources. Everybody can and should benefit from a healthy AT&T.

However, AT&T's current and embedded or traditional business practices that, as demonstrated above, have followed a consistent and widespread pattern over several decades, and are, if anything, being intensified today, are harmful to competition, innovation, and to significant numbers of consumers. AT&T is not fulfilling its obligations as a privileged steward of scarce public resources.

²² <http://www.ferretelecom.com/story/at-t-says-it-can-block-google-fiber-poles-austin-city-begs-differ/2013-12-17>

²³ <http://apps.fcc.gov/eefis/document/view?id=7521303307>

In this context approval of AT&T's proposed acquisition of DirecTV would be a mistake. Approval will only encourage and confirm the company in pursuit of its ongoing anti-competitive and customer-hostile initiatives that reject, and are aimed at overturning, the principles and frustrating the pro-competitive and pro-customer goals of the regulator from which it is seeking authorization for this transaction. AT&T is arguing like a football team that would promise to play according to the rules of the game, while denying that there is a need for referees to make sure that the rules are respected and possess the authority to enforce these rules, and impose penalties if they determine that a rule has been violated.

In contrast, rejection of the DirecTV deal would be one step (although far from decisive) along the way to transforming AT&T's culture, and the priorities that influence the decisions it takes about its investments and operations, and its relations with customers, competitors and partners. As a major network operator that has been awarded privileged access to, and use of, scarce public resources AT&T is unlike companies in other sectors of the economy that do not involve, or require, the exploitation of government-awarded franchises and licenses with specific rights that largely insulate them from competition.

AT&T must be obliged to act, and will not do so voluntarily, on the basis of a balanced consideration of the legitimate goals and needs of all stakeholders.

On the basis of the evidence and analyses presented in this document the AT&T/DirecTV transaction should be rejected in its entirety.

EXHIBIT SEPARATOR PAGE

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Re: Applications of AT&T Inc. and DIRECTV for Consent to Assign or Transfer
Control of Licenses and Authorizations, MB Docket No. 14-90

Comment of MFRConsulting

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May 7th, 2015

AT&T and DirecTV – Mobile and Sports Programs

Several opponents of the proposed AT&T/DirecTV transaction - from Netflix to Cogent Communications, and the Writers Guild of America West (WGAW) to the American Cable Association (ACA) - have recently submitted filings to the FCC presenting evidence and arguments to demonstrate that this deal poses a serious threat to the public interest. This threat is different in its details from, but as serious as the threat posed by the now abandoned Comcast/Time Warner Cable merger. These filings,¹ submitted now that attention has shifted from Comcast's to AT&T's move to acquire more market power, have identified several serious areas of concern about the adverse impact of a combined AT&T/DirecTV on competition in the broadband market and between MVPDs (Multichannel Video Programming Distributors), as well as its harmful consequences for programmers and American consumers. They have also referred to AT&T's mischaracterization of the alleged benefits of the merger as transaction-dependent, which they are not.

However, these filings are incomplete because they have not considered and assessed the significance of AT&T's position, in contrast to Comcast, as a major mobile as well as a fixed broadband operator in the US², or of DirecTV's contract with the NFL (National Football League) that was renewed for an 8 year term at a total price of \$12 billion in October 2014.³ Renewal of this deal was a "make or break" issue for DirecTV's acquisition by AT&T, since there was an opt out clause

¹ Cogent at <http://apps.fcc.gov/ecfs/document/view?id=60001045289>; Netflix at <http://apps.fcc.gov/ecfs/document/view?id=60001046398>; ACA at <http://apps.fcc.gov/ecfs/document/view?id=60001046260>; and WGAW at <http://apps.fcc.gov/ecfs/document/view?id=60001046393>.

² AT&T is the slightly smaller (in the wireless market) member of a duo with Verizon that accounts for about two-thirds of the US mobile market.

³ <http://www.forbes.com/sites/greatspeculations/2014/10/08/directv-extends-its-deal-with-nfl-for-12-billion/>

that gave AT&T the right to walk away from the deal in the event that DirecTV had been unable to renew its contract with the NFL, and maintain exclusive rights to the Sunday Ticket package⁴. The Sunday Ticket Max package includes the right to stream NFL games to a customer's smartphone, tablet, and other mobile devices.

There is no doubt that streaming video to mobile and portable devices with connections to cellular networks, Wi-Fi and other wireless systems, is becoming an increasingly important element of mobile customers' use and their perceptions of the relative attractiveness of competing mobile services, just as video transmitted over fixed broadband facilities has come to constitute the majority of traffic on the public Internet. Furthermore, sports events, along with breaking news, are content that consumers want to watch in real time, unlike TV shows and movies that are watched at times and in places that best suit consumers for their convenience and pleasure, and not at a time determined by a broadcaster.

Mobile devices that accompany users at all times and in all locations are natural platforms for such real-time viewing.

Moreover, with the anticipated advent of new technologies, such as LTE Broadcast, the capacity limitations of cellular technology in meeting simultaneous demands from many users for access to the same content will be overcome or substantially mitigated. Thus AT&T's role in the mobile market today, and for the foreseeable future, is relevant to an assessment of the impact and consequences of its proposed acquisition of DirecTV that is a major MVPD.

AT&T has a long record of ingeniously contrived anti-competitive and unreasonably discriminatory behavior. Therefore, one of the gravest concerns about the future impact of a combined AT&T/DirecTV lies in the ways in which it will become capable of exploiting the combination of AT&T's market power in mobile services with DirecTV's exclusive NFL contract, and other sources of leverage over programmers, that the enlarged entity will possess, and hence the conditions under which valuable content will be accessible to consumers.

Thanks to their terminating monopolies with substantial numbers of consumers a combined AT&T/DirecTV will have the incentive and the ability to exploit highly asymmetric negotiating environments with programmers and OVDs (online video distributors), and to impose contractual conditions on customers for whom the desire to watch NFL games, including those played in locations outside their local or

⁴ <http://www.digitaltrends.com/home-theater/directv-finally-cements-renewal-of-nfl-sunday-ticket-contract/>; and from AT&T's SEC filing on the merger at <http://www.sec.gov/Archives/edgar/data/732717/000119312514203709/d729946d8k.htm> - "The parties also have agreed that in the event that DIRECTV's agreement for the "NFL Sunday Ticket" service is not renewed substantially on the terms discussed between the parties, the Company may elect not to consummate the Merger, but the Company will not have a damages claim arising out of such failure so long as DIRECTV used its reasonable best efforts to obtain such renewal."

regional viewing areas and when they are away from home, is a decisive factor in their choice of MVPD. The combination of mobile as well as fixed broadband access and exclusive contracts for delivering highly popular content, such as NFL games in real time, will put a combined AT&T/DirecTV in a very powerful position.

Large asymmetries in negotiations are sources of market failure. Their outcomes can harm the asymmetrically disadvantaged party, regardless of its competitiveness and the value it can otherwise deliver to customers, since it is difficult, if not impossible, in such environments to establish an agreement that is "commercially reasonable" for **both** parties. The outcomes of these negotiations may also make it possible for the asymmetrically advantaged AT&T/DirecTV to extract excessive prices from consumers that are not disciplined by effectively competitive pressure, or by the ease for a consumer of switching to an alternative source of, or delivery vehicle, for the same content. Nor will high prices charged by AT&T/DirecTV have to be justified by superior operational performance, or any factor independent of its exclusive, or rare, access to popular content delivered via AT&T's mobile and fixed broadband access services.

AT&T has an extensive well-documented record of anti-competitive behavior in both wireless and fixed broadband markets, and of failures to honor its commitments and fulfill the conditions it accepts⁵. Acquisition of DirecTV would give AT&T additional means and motivation to exploit unfairly and against the public interest the combination of its strong position in many locations in both fixed and mobile broadband access markets with its unique and expensive contract to deliver highly valued video content such as NFL games. This combination reinforces the justification for rejecting this deal in its entirety.

⁵ MFRConsulting, "AT&T and DirecTV – Causes for Alarm, Skepticism, and Rejection," <http://apps.fcc.gov/ecfs/document/view?id=60901045187>

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May 20th, 2015

VIA ECFS

Chairman Tom Wheeler
Commissioner Mignon Clyburn
Commissioner Jessica Rosenworcel
Commissioner Ajit Pai
Commissioner Michael O'Rielly
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: In the Matter of Applications of AT&T Inc. and DirecTV for Consent to Assign or Transfer Control of Licenses and Authorizations, MB Docket No. 14-90

Dear Chairman Wheeler and Commissioners Clyburn, Rosenworcel, Pai and O'Rielly:

For many reasons the best outcome of the proposed acquisition of DirecTV by AT&T would be its rejection¹. However if it is decided nevertheless that the new merged entity *might* deliver benefits to customers, and *potentially could on balance* support the public interest, then conditions must be imposed that will achieve these results.

AT&T has a long and depressing record of "bait and switch" in which it announces (*the bait*) allegedly-transaction-dependent commitments to initiatives that will benefit customers, and agrees to conditions that it will fulfill once its proposed transaction is approved. However post-transaction when it is impossible to undo the takeover (*the switch*) AT&T does not fulfill these commitments², nor does it respect the conditions that turn out to be either ineffective and/or non-enforceable in practice. Hence the desired outcome is not achieved. AT&T's market power and potential for abuse are enhanced, and it is encouraged to try the same stratagem again... and again... and again.

Moreover AT&T is intransigent in refusing to implement, and is ingenious in finding justifications for circumventing the intent of requirements that the FCC establishes to sustain competition, most notoriously with respect to data roaming agreements. AT&T has also at times been creative in introducing new unreasonable obstacles to competition, most glaringly in its unilateral introduction of non-interoperability into the 700 MHz Lower Band.

¹ <http://apps.fcc.gov/ecfs/document/view?id=7522805201>;
<http://apps.fcc.gov/ecfs/document/view?id=7522820501>;
<http://apps.fcc.gov/ecfs/comment/view?id=6019231433>;
<http://apps.fcc.gov/ecfs/document/view?id=60001045187>
² <http://apps.fcc.gov/ecfs/document/view?id=60001047176>

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AT&T has shown itself to be untrustworthy, and past transaction-related conditions have proven in practice to be meaningless. Therefore any conditions imposed on the AT&T/DirecTV transaction should meet the criterion of including one or more that must be demonstrably and irrevocably fulfilled *before*, instead of being related only to AT&T's actions and behavior *after* the transaction is consummated.

Among possible *ex ante* conditions to test AT&T's good faith and oblige it to change its behavior for the benefit of customers and to increase competition are:

- AT&T must develop and publish a reference roaming agreement that is approved by other operators such as the members of the Rural Wireless Association, and at least one operating agreement based on this reference document must be negotiated and implemented;
- AT&T must develop and publish a reference agreement for wholesale special access services (covering TDM and IP-based services) that is also approved by major customers of these services, and at least two operational agreements (one for TDM and the other for IP-based services) must be negotiated and implemented;
- AT&T must withdraw its support for the litigation against the FCC's 2015 Open Internet Order;
- AT&T must tear down its "wall of silence" in ignoring and failing to acknowledge compelling rebuttals of claims made individually by itself and by the industry associations of which it is a leading member, supported in various cases by the findings of external research it has funded, and either provide fact-based analyses or surrebuttals to support them, or if it cannot do so admit its mistake(s) and repudiate these claim(s)³.

Sincerely,



Martyn Roetter, D. Phil Physics (Oxon)

MFRConsulting, 144 Beacon St, Boston MA 02116

mroetter@gmail.com; (617) 216-1988

³ Egregious examples include the claims that: (a) *Title II reclassification of broadband will lead to a substantial (up to over 30% or even more) reduction in broadband investment*, based on an AT&T-funded analysis whose finding has been shown to rely on the misuse of statistics (<http://apps.fcc.gov/ecfs/comment/view?id=60991029755>), and (b) *The largest US mobile operators make the most efficient use of spectrum*, based on a metric that has been shown to be spurious and astonishingly ignores the cellular structure of mobile networks (See Bloomberg BNA Daily Report for Executives, May 31st, 2013, "The Mystery of the Spurious Spectrum Efficiency Metric: Why Are America's Wireless Leaders Promoting a Meaningless Measure?", and <http://apps.fcc.gov/ecfs/document/view?id=7021920798>).

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Register Boston, MA 02116 | Change (<http://localization.att.com/loc/controller?cdvn=landinglocalization&pid=1080&localization-reset=true&return-path=http://www.att.com/shop/wireless>)

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Rollover Data for Mobile Share Value expires after 1 mo. or with any plan change & is used after monthly plan data. Add'l restr. apply. See Rollover Data details

Mobile Share Value[®] customers will automatically get Rollover Data on the network with the nation's strongest LTE signal*

We're proud to offer Rollover Data to our new and current Mobile Share Value customers. With Rollover Data, unused plan data rolls over for one month. What's more, if you're on a Mobile Share Value plan, you don't even have to do anything to get it—Rollover Data is automatically part of your plan. For our Mobile Share Value customers, it's our way of letting you know how much we appreciate you!

Your AT&T bill shows the amount of any available Rollover Data. You can also view your Rollover Data balance online or with the myAT&T app.

[Learn more about Mobile Share Value plans >](#)



Go to myAT&T to switch to Mobile Share Value today.

[Log in \(http://www.att.com/myattapp\) >](http://www.att.com/myattapp)

*Claim based ONLY on average LTE signal strength for national carriers. LTE is a trademark of ETSI. LTE not available everywhere.

FAQ for Rollover Data on Mobile Share Value plans

[Expand All](#)

[What is Rollover Data?](#)

Mobile Share Value example: If you have our 15GB AT&T Mobile Share Value plan and only use 10GB, you'll roll over 5GB (your Rollover Data balance) to the next month for a total of 20GB to be used within the next month. There's no cap on the amount of unused plan data within a given month that's eligible for rollover. However, Rollover Data automatically expires after one billing period, and unused Rollover Data won't carry over to the next month.

When did Rollover Data start?

AT&T wireless bills sent out after January 25, 2015 show the amount of Rollover Data from the previous bill cycle available for use during the next bill cycle. You can also view your Rollover Data balance online or with the [myAT&T app](http://www.att.com/myattapp) (<http://www.att.com/myattapp>).

Which lines does Rollover Data apply to on Mobile Share Value plans?

Rollover Data is shareable by all lines on the same Mobile Share Value plan. **For example**, if you have four lines for your family on a 15GB Mobile Share Value Plan and only use 10GB in a given month, you'll roll over 5GB and have a total of 20GB available to use within the next month, which can be used across all four lines on your plan. This gives you and your family the extra data you may need to do the things you love, like surfing the Web, watching videos, listening to your favorite music, or sending email.

When do I begin using Rollover Data during the month?

Rollover Data is used only after the full data allowance for your Mobile Share Value plan in the current bill cycle is used. Once you exceed your plan's current allowance, you'll automatically start using your available Rollover Data. If all Mobile Share Value plan allowance and Rollover Data are used, an additional allotment of overage data is automatically charged to your account. Overage data does not roll over.

Is Rollover Data a limited-time offer?

How can I get Rollover Data?

Does Rollover Data apply to the legacy Mobile Share plans or Data-only Mobile Share plans?

How will Rollover Data show up on my bill?

Where can I check my Rollover Data balance?

When do I lose my Rollover Data?

You say that Rollover Data expires when plan changes are made. Does that apply to adding, upgrading, or removing devices from a Mobile Share Value plan?

Does Rollover Data include overage data that's been added to my plan during the bill cycle?

Rollover Data on Mobile Share Value plans: Unused data from the monthly plan allowance rounds up to the nearest megabyte (MB) and carries over for one billing period. **Unused Rollover Data automatically expires after one billing period or with any plan change (such as changing data amounts or termination).** Unused overage data does not roll over. Rollover Data is used after your monthly plan allowance. Unused Rollover Data is not redeemable for cash or credit and is not transferable, including to other Mobile Share Value groups on your account. Mobile Share and Mobile Share Data-only plans are excluded. For information on prepaid plans with Rollover Data, visit [att.com/GoPhoneRollover](http://www.att.com/GoPhoneRollover) (<http://www.att.com/GoPhoneRollover>) (<http://www.att.com/GoPhoneRollover>). ©2015 AT&T Intellectual Property. All rights reserved.

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AT&T's Network

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CONSUMER

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Introducing Data Stash™ :

Don't lose what you don't use.

Now when you buy extra 4G LTE data, your unused data rolls to the next month. First, we'll start you with 10GB of Free 4G LTE data.

Qualifying service req'd. Free 10GB roll-over limited to 12/31/14. Use free 10GB before data begins rolling over; rolled data good for 12 mos.

You paid for your data, why can't you keep it?

Your carrier tricked you into buying too much data to avoid overage charges. Sounds familiar, right? And on top of that, at the end of the month they snatched back all the data you didn't use, even though you already paid for it.

Enough is enough. That's why we created Data Stash™. Why should you lose the data you've paid for at the end of the month just because you didn't use it? T-Mobile is the only national carrier that lets you roll the unused 4G LTE data you paid for into the next month, for 12 months – all at no extra charge. Plus, for one time only we'll even get you started with up to 10GB of Free 4G LTE data.



Qualifying service req'd. Must use limited-time free 10GB before data begins carrying over; rolled data good for 12 mos. Available for use in Mexico & Canada later this year.

Go ahead – Keep the data that's yours



Data Stash™ lets you roll the extra unused 4G LTE data you paid for into the next month. It's automatically included with your qualifying postpaid or prepaid Simple Choice plan, with no fees and no overage data charges, ever.

Here's how you can take advantage of Data Stash:

Data Stash will be available to all T-Mobile customers on a postpaid or prepaid Simple Choice plan who purchase 3GB or more of 4G LTE data (1GB or more for postpaid tablet plans). No need to sign up – your Data Stash will begin automatically once you've used the up to 10GB of free 4G LTE data we give you!

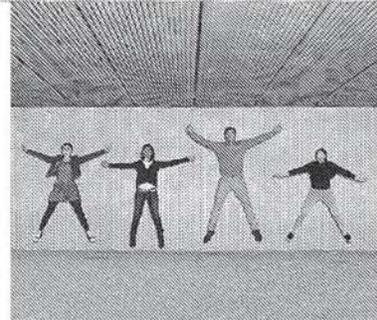
- There's never been a better time to add more data to your plan. Within a day or so of activating, you'll have access to your one-time 10GB of Free 4G LTE data.
- Once you've used up your FREE 10GB you'll automatically start rolling your unused 4G LTE data into the next month.
- At the end of the month, all your unused 4G LTE data – rounded up to the nearest megabyte – rolls into your Data Stash to be used any time in the next 12 months.

Already a customer? Log in to shop (https://my.t-mobile.com/shop/shop.html?cid=WMD_TM_VLT_GG1K83QZ2V1337)

Free 10GB: Limited time offer; once per customer. Qualifying service required. Data available beg. 1st full Jan bill cycle; available until 12/31/15.

Get the plan that breaks the rules

With Data Stash™, the Simple Choice Plan just got even better. The Simple Choice plan starts at \$50 a month with unlimited talk, text and data on our network with 1GB of high-speed data included. You can easily increase your data option to 3GB of high-speed data or more to get Data Stash. That way, you won't have to worry about losing the unused 4G LTE data you already paid for because it automatically rolls into your next month's stash.



Choose the Simple Choice Plan (/simple-choice-international-plans.html?cid=WMD_TM_VLT_NE3KJW8RAE1335)

Data Strong™ is not just a promise – it's how our network is designed

Today's communication is built around data—downloading, streaming, surfing, video chatting, and more. That's why we designed our network differently: for data. With T-Mobile, you'll experience more data capacity per customer than AT&T and Verizon. And we're not just the Fastest Nationwide 4G LTE Network, we're also the fastest growing U.S. wireless company, delivering blazing fast LTE speeds. Even during busy times, you're more likely to get fast data on our LTE network.

So go ahead—with Data Stash you can use your data whenever you want, made possible by the Data Strong™ Network.

See the Data Strong difference (http://explore.t-mobile.com/4g-lte-network?cid=WMD_TM_VLT_BT)

Questions about Data Stash?

What customer plans are eligible for Data Stash?

What customer plans are not eligible for Data Stash?

How do I sign-up for Data Stash?

How do I get the 10GB Free Data Stash?

[View 7 more questions](#)

Simple Choice... Cable service and quality of service required to achieve 4G LTE speeds. **Unlimited talk & text features for direct U.S. communications between 2 people. Prepaid Data Stash**
On-network data from past 12 months carries over to next billing cycle for as long as you maintain qualifying service. Free 200MB Mobile Internet data and roaming allotments do not carry over. Not combinable with Match Your Data offer; other promotional offers may also be excluded. **Data does not begin carrying over until after free 10GB runs out. Free 10GB:** Limited time offer; subject to change. Once per customer. Qualifying service required. Data available until 12/31/15. Unused data has no cash value. **Pay in Advance Data Stash:** Access to unused on-network data from past 12 months for as long as you maintain qualifying service. Free 200MB Mobile Internet data and roaming allotments do not carry over. Other promotional offers and discounts may be excluded. **Unused data access does not begin until after free 10GB runs out. Free 10GB:** Limited time offer; subject to change. Once per customer. Qualifying service required. Data available until 12/31/15. **Unused data has no cash value. Capacity Claim Basis:** congestion experienced; per customer. **Fastest LTE:** Based on download speeds. **Coverage** not available in some areas. **Network Management:** Service may be slowed, suspended, terminated, or restricted for misuse, abnormal use, interference with our network or ability to provide quality service to other users, or significant roaming. LTE is a trademark of ETSI.

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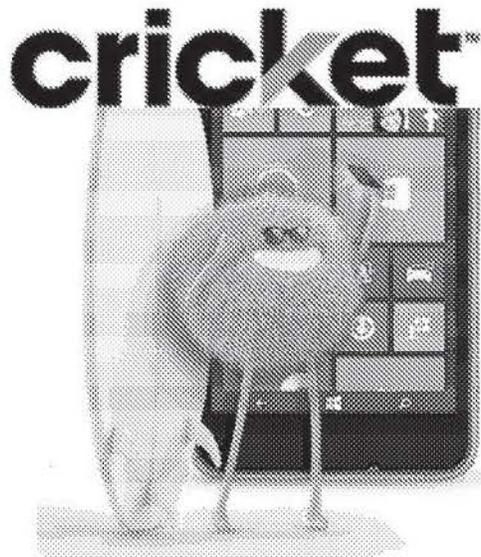
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- Unlimited talk and text
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Bring your GSM-compatible phone to Cricket, and get a SIM card for \$9.99.*

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Easy to use and affordable.

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Chargers, headsets, cases, and more.

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Prepaid Phones: Buy One or Bring One - It's Your Call

Having the right phone for your needs is essential. That's why at Cricket, we give you options.

Option1: Keep your current cell phone

If you like your current phone, bring it to Cricket. To work on our network, your cell phone must be unlocked (not tied to another carrier) and GSM compatible. (Learn more about GSM and unlocked cell phones)

Option 2: Get a new phone

Shopping for a new prepaid smartphone? Look no further. We have some of the best prepaid phones for sale at cheap prices, including popular smartphones, such as:

- Samsung prepaid cell phones
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Want a bargain?

Check out our best cell phone deals to find discounts on phones, plans, even free smartphones, after mail-in rebate! So stay connected and save money - all with a cell phone service that makes you smile.

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Travelling outside Europe? Planning to use Facebook and Twitter or email while you're away? With Vodafone Data Traveller, £5 gives you 25MB of data a day, with £3 a MB thereafter, to use on your phone in our Rest of World Zone (which covers the USA, Canada, [Asia Pacific \(https://support.vodafone.co.uk/Going-or-calling-abroad/Vodafone-WorldTraveller/63730691\)](#) and [Rest of World Zone 1 \(https://support.vodafone.co.uk/Going-or-calling-abroad/Vodafone-WorldTraveller/63730691\)](#)).

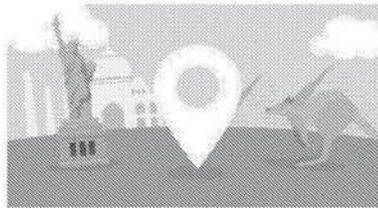
We'll send you free texts to remind you of your daily allowance – and to let you know when you're nearing your limit.

To opt in to Data Traveller, call **191** free from your Vodafone mobile or **03333 040 191** from any other UK phone (standard call charges apply).

If you're a business customer, please contact your account manager.

[See the Vodafone Data Traveller terms and conditions \(http://www.vodafone.co.uk/about-this-site/terms-and-conditions/vodafone-data-traveller/index.htm\)](#)

Where can I use it?



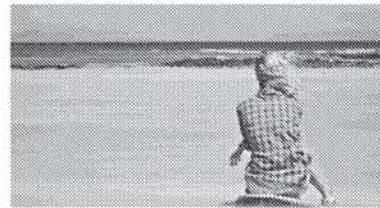
To check if you can use Data Traveller in the country you're visiting, just start typing the country name.

Where are you going?

The USA (United States of America)

The USA (United States of America) is covered by Data Traveller.

How much does it cost?



If you use the full 25MB and need more, you'll pay the standard charge of £3 a MB up to 5MB, then £15 for every 5MB after that in our Rest of World Zone. Data Traveller isn't available in our Rest of World Zone 2 (Andorra, Greenland, Lebanon, Libya and Uzbekistan).

To help you keep your costs under control, there's an automatic monthly spend cap on the amount you can spend on data while roaming of £36.39.

Vodafone UK

[About us \(http://www.vodafone.co.uk/about-us/index.htm\)](#)

About this site

[Privacy policy \(http://www.vodafone.co.uk/about-this-site\)](#)

Support

[All help topics \(http://support.vodafone.co.uk\)](#)
[Your device \(http://www.vodafone.co.uk/accessibility-services\)](#)

Accessibility

[Accessibility Services \(http://www.vodafone.co.uk/accessibility-services\)](#)

Popular phones

[iPhone 6 \(http://www.vodafone.co.uk/iphone/phone-\)](#)

Products & services

[Mobile Wi-Fi & dongles \(http://www.vodafone.co.uk/snoptablets-\)](#)

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[Personal \(/index.htm?c=reset\)](#)

[Business \(/business/index.htm\)](#)

[The Vodafone Difference \(/the-vodafone-difference\)](#)

[Privacy and cookies \(/about-this-site/our-privacy-policy/privacy-and-cookies/index.htm\)](#)

[Log in to My account \(https://online.vodafone.co.uk/dispatch/Portal/appmanager/vodafone/wrp?_nfpb=true&_pageLabel=Page_BOS_MyAccount_Login&pageID=MV_0005\)](#)

[Register \(https://www.vodafone.co.uk/myvodafone/faces/oracle/webcenter/portaltapp/pagehierarchy/Page2.jsp\)](#)

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[Broadband \(/broadband/index.htm\)](#)

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[Vodafone EuroTraveller \(/explore/costs/travelling-abroad/vodafone-eurotraveller/index.htm\)](#)

[Vodafone EuroTraveller on Pay as you go \(/explore/costs/travelling-abroad/vodafone-eurotraveller-on-pay-as-you-go/index.htm\)](#)

[Vodafone WorldTraveller \(/explore/costs/travelling-abroad/world-traveller/index.htm\)](#)

[Vodafone Data Traveller \(/explore/costs/travelling-abroad/vodafone-data-traveller/index.htm\)](#)

[Calling abroad from the UK \(/explore/costs/calling-abroad-from-the-uk/index.htm\)](#)

[UK call charges \(/explore/costs/call-charges/index.htm\)](#)

[Data costs \(/explore/costs/data-charges/index.htm\)](#)

[For students \(/explore/costs/student-discount/index.htm\)](#)

[Network \(/explore/network/index.htm\)](#)

What are you waiting for?

With Vodafone WorldTraveller, you can take your UK minutes, texts and data with you anywhere in our WorldTraveller Zone.

What is Vodafone WorldTraveller?



If you're a Pay monthly customer or on certain business plans, you can take your UK minutes, texts and data with you anywhere in our WorldTraveller Zone.

It'll cost just £5 extra a day (midnight to midnight in the capital city of the country you're visiting) whether you're using your phone, tablet, dongle or Mobile Wi-Fi device.

Where can I use it?



Check our WorldTraveller Zone to find out if the country you're visiting is covered.

[See our WorldTraveller Zone \(http://www.vodafone.co.uk/cs/groups/public/documents/webcontent/pdf_worldtraveller_roaming_map.pdf\)](#)

[PDF: 772KB]

Where are you going?

e.g. Australia

Why get WorldTraveller?



- You can use your UK minutes, texts and data in our WorldTraveller Zone for just £5 a day
- You can use WorldTraveller on your phone, tablet, dongle or Mobile Wi-Fi device
- You won't pay a penny to receive calls or texts (excluding premium texts)
- If you get close to your data limit, we'll send you a text to let you know – just like when you're in the UK
- If you go over your UK monthly allowance, you will be charged our standard UK call charges. If you make a call or send a text to a country outside the country you're roaming in (with the exception of the UK), you'll be charged our standard international rates as well as the Vodafone WorldTraveller daily charge
- There's no monthly commitment

How does it work?

Find out more	How to opt in	Help and support
	Extras You can use your UK data packs, Vodafone International and international allowances with WorldTraveller, but you won't be able to use your Data Test Drive or any other extras. If you have a Red Value Bundle, your entertainment pack will only work in the UK.	
	My Vodafone app Keep track of your usage, balance and spending while you're travelling with the My Vodafone app	

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EXHIBIT SEPARATOR PAGE

Roaming without a phone bill shock

Charges have been slashed for travellers – and expats – using UK mobiles in Europe but those elsewhere still pay dearly. Charlotte Beugge explores money saving options



It's good to talk: unless you happen to be racking up a huge roaming bill in the process. Photo: Alamy

10:15AM BST 11 Jul 2014

The good news for expats who move around Europe is that **the cost of using a UK mobile phone**, whether for calls, roaming or texting has fallen. This should reduce the number of shock stories of holidaymakers coming home to huge bills for downloading films, data or music.

As of July 1, the charge for using a mobile phone to make a call has been capped at €0.19 (15p) per minute. For downloading data or browsing, the charge is no more than €0.2 (16p) per megabyte. Texts are no more than €0.06 (5p) and receiving a call costs no more than €0.05 (4p) a minute.

However, the caps only apply in Europe – it is still easy to run up big bills when roaming outside the Continent. According to **moneysavingexpert.com** it can cost £1 a minute to make a phone call from the US – and if you receive a call in Cuba you could be charged £2.50 a minute. Regulator Ofcom says that the cost of data roaming outside the EU can be £6-8 per megabyte of data.

In order to avoid an unexpectedly huge bill, mobile operators apply a cut off limit a customer has used €50 of data per month, according to Ofcom. However, it is important to be aware that smartphones and tablets can automatically seek out mobile connections and use them to update apps. Mobile phone users should, therefore, turn off data roaming before they go if they do not plan to use it while away.

If the plan is only to make calls or send texts, it is possible to save money by buying a local SIM card, in order to benefit from the same prices that locals pay. This means having a different number, but it can be worthwhile if visiting a certain country regularly. An unlocked handset (i.e. not tied to a specific network) is also required.

In the United States, rather than buying a SIM, it is possible to get a basic pay-as-you-go handset with pre-loaded minutes: these can be very cheap and avoid the need for unlocking a UK handset.

Another option is an international multi-country SIM: these are not as cheap, but can be convenient for those who travel extensively.

If you wish to purchase a SIM card for your destination in advance, **0044.co.uk** offers options for countries including Brazil, France, New Zealand and Spain. An Australian SIM costs £29.99 including £20 credit. Other websites offering deals for overseas mobile packages include **TravelTalk** and **UK2Abroad**.

Global SIMs cost around £15-40. A TravelTalk SIM works in 170 plus countries and can be used from landlines using a toll free number and a PIN. This is useful for countries with poor mobile reception or if phoning home from a desk or hotel phone. This option costs from £25 including £25 call time.

For expats who return to the UK frequently, a good option could be a cheap pay-as-you-go phone to use while there – these are available from £10. For heavy or frequent use, a price comparison site such as **moneysupermarket.com** can assist in finding the best contract deals.



How we moderate

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Qualifying rate plan required.

Two day web-only discounts from T-Mobile.

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Now get three countries for the price of one.

Unlimited calls and text to and from the U.S., Mexico, and Canada to any phone-plus 4G LTE data-just like at home.

[Learn more](#)

Device, network, and coverage impact experience and speeds, which vary.

Now get three countries for the price of one
T-Mobile nationwide coverage map

Check coverage

Please enter a valid address

The map cannot display this address. Try again.

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Expand your coverage to Mexico and Canada at no extra charge

Expand your coverage to Mexico and Canada at no extra charge

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Maps with verified customer connection data

Maps with verified customer connection data

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An expanded network

An expanded network

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Trapped by contracts and phone payments?

Stuck with your current carrier? T-Mobile can set you free. We'll pay off your phones or tablets with a trade-in credit and Visa® Prepaid Card when you trade them in—every last cent. Stuck in annual service contracts? We've got those covered, too. So why wait? Ditch your carrier and their switching fee today. See requirements.

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Get the Data Strong™ network

With T-Mobile, you'll experience more data capacity than any other major national carrier. And only T-Mobile offers unlimited 4G LTE data on the fastest nationwide 4G LTE network.

[Learn more](#)

Fastest LTE Network: Based on download speeds. **Capacity Claim Basis:** congestion experienced, per customer.

Data Strong network

Find closest store

Enter City and State, or Zip Code

Sorry. We were not able to find any T-Mobile stores near that ZIP code.

Invalid Country

Please enter a city, state, or zip code.



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NOW CALL AND TEXT IN MEXICO & CANADA

JUST LIKE YOU DO IN THE U.S.

Unlimited calling to Mexico and Canada from the U.S. for FREE. Plus, get 4G LTE data and unlimited calling and texting when you're in Mexico and Canada, just like in the U.S.

[SHOP PLANS](#)

Device, network & coverage impact experience and speeds, which vary. Image does not depict coverage.

NOW, OUR NEW SIMPLE CHOICE PLANS INCLUDE

COVERAGE IN 3 COUNTRIES FOR THE PRICE OF 1.

NOW, T-MOBILE INCLUDES COVERAGE IN 3 COUNTRIES FOR THE PRICE OF 1

U.S., MEXICO, AND CANADA

Check your coverage of 4G LTE cities in [Mexico and Canada](#)

Unlimited calling to and from the U.S. to any number, including mobile phones, in Mexico and Canada.

Now when you travel throughout the U.S., Mexico, & Canada your phone works the same with 4G LTE data and unlimited calling and texting.

No other plan includes this much freedom and flexibility at no extra charge.

Already a customer? [Upgrade your plan or add a \\$10 feature to include Mexico and Canada](#)

Coverage not available in some areas.

Simple Choice plans also include these great benefits—at no extra charge:

No annual service contracts & no data overages, ever.

Unlimited data and texting when you travel to 120+ countries and destinations.

Unlimited music streaming on top services without using your data on our network.

Unused 4G LTE data rolls forward into the next month, for domestic use in the next 12 months. Available for use in Mexico & Canada later this year.

UNLIMITED

TALK + TEXT + DATA

INCLUDES UP TO 1GB OF 4G LTE DATA.....

Unlimited reduced-speed data while on T-Mobile's network.

\$50/mo

(plus taxes and fees)

ADD MORE LINES

2ND LINE.....+\$30/mo

ADDITIONAL LINES.....+\$10/mo

(up to 10 lines)

ADD MORE 4G LTE DATA

UP TO 3GB.....+\$10/mo/line

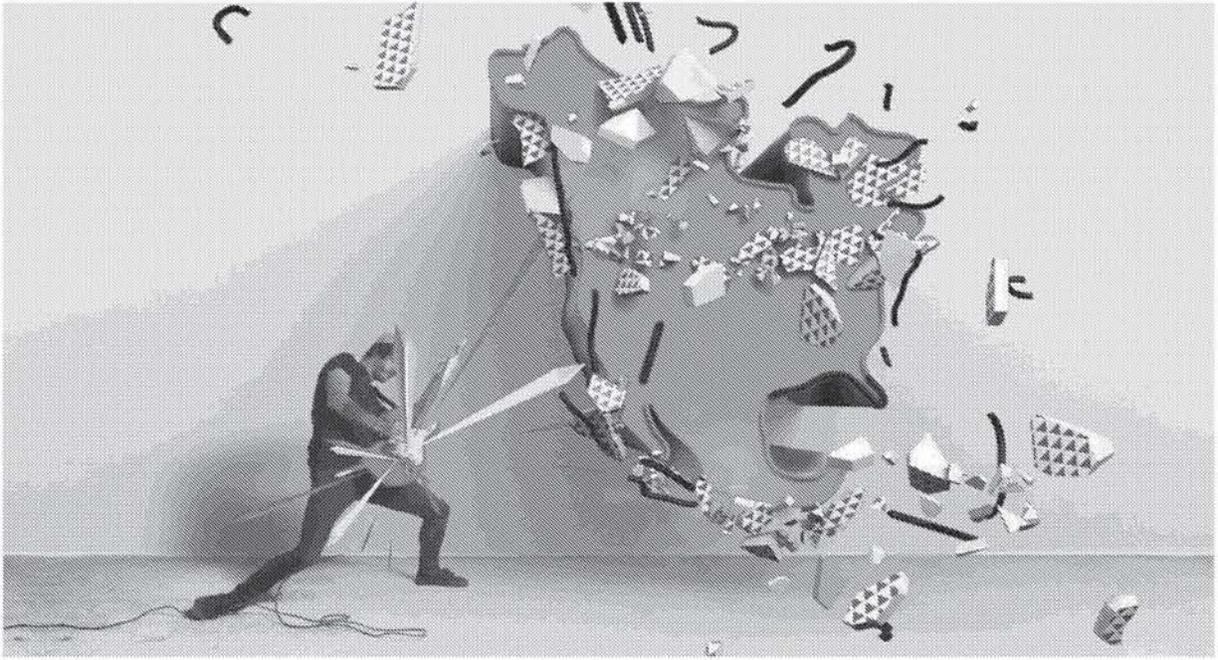
UP TO 5GB.....+\$20/mo/line

UNLIMITED ON-SMARTPHONE.....+\$30/mo/line

[SHOP PLANS](#)

Already a customer? [Upgrade your plan or add a \\$10 feature to include Mexico and Canada](#)

Limited time offers; subject to change.



Questions?

[What is new about the amazing Simple Choice rate plans?](#)

Now you can get unlimited calling to and from the U.S. to any number, including mobile phones, in Mexico and Canada, starting July 15.

Now when you travel throughout the U.S., Mexico, & Canada your phone works the same, with 4G LTE data and unlimited calling and texting.

New customers get this plan automatically starting July 15th. Most existing customers can migrate to this plan at no extra charge.

[What is different between Simple Global and the features of this plan?](#)

Simple Global is a feature of all of our Simple Choice plans. It gives you unlimited data and texting in 120+ countries and destinations at no extra charge. Plus, calls are just 20-cents per minute to and from the 120+ countries and destinations.

With Simple Choice North America your phone works in Mexico and Canada just like it does in the U.S. at no extra charge.

- Unlimited calling, texting, and 4G LTE data included in Mexico and Canada
- Unlimited calling and texting to and from Mexico and Canada, including to landlines and mobile phones

[How can I get it?](#)

Any new customer signing up for Simple Choice North America on or after 7/15 will automatically get Mobile Without Borders at no additional cost.

Most existing customers can switch to the new plan at no additional cost. Simply opting into the Simple Choice North America rate plan on MyT-Mobile.com or by calling customer care or visiting a T-Mobile store.

Postpaid customers on promotional or legacy plans can keep their promotional plan and add these benefits for just \$10 a month, which covers everyone on their account up to 10 people! Or, they can choose to switch to Simple Choice North America and receive these benefits automatically.

[How do I know that I have it?](#)

You'll know you have Mobile Without Borders when your rate plan says "Simple Choice North America" on [MyT-Mobile.com](#). You can also check your rate plan by calling customer care or visiting a T-Mobile store.

[Does Data Stash work in Mexico and Canada?](#)

The ability to tap into your Data Stash from Mexico and Canada is coming later this year.

For complete details visit the [Data Stash](#) page.

View 8 more questions.

General Terms: Credit approval, deposit, capable device, and \$15 SIM starter kit may be required. If you switch plans you may be bound by existing term (including early termination provisions) and/or charged an up to \$200 fee. Regulatory Programs Fee of \$2.71 per line/month applies. Taxes approx. 6-28% of bill; add'l usage taxed in some countries. **Voice and text features for direct communications between 2 people.** Charges apply for calls to other countries. Call forwarding only to U.S. numbers. Partial minutes/megabytes rounded up. Full speeds available up to monthly allotment, including tethering (Unlimited on-smartphone 4G LTE data option includes 7GB of tethering); then, slowed to up to 2G speeds through bill cycle. Certain uses, e.g., some speed test apps, may not count against high-speed data allotment or have speeds reduced after allotment reached. U.S. roaming and on-network data allotments differ. **Not for extended international use; you must reside in the U.S. and primary usage must occur on our U.S. network.** Service may be terminated or restricted for excessive roaming. Communications with premium-rate numbers not included. **Data Stash:** On-network data from **past 12 months** carries over to next billing cycle for as long as you maintain qualifying service. Not available for use in Canada or Mexico. Unused data has no cash value. **Music Streaming:** Licensed music streaming from included services does not count towards 4G LTE data allotment on T-Mobile's network or in Canada/Mexico. Music streamed using Smartphone Mobile HotSpot (tethering) service might. Song downloads, video content, and non-music audio content excluded. For included services, see <http://www.t-mobile.com/offer/free-music-streaming.html>. **Simple Global:** Additional charges apply in excluded destinations e.g. Canada & Mexico. Calls from Simple Global countries over Wi-Fi are \$20/min (no charge for Wi-Fi calls to U.S., Canada, and Mexico). We are not responsible for our partners' networks. **Standard speeds approx. 128 Kbps.** No tethering. Device must register on our U.S. network before international use. **Network Management:** Service may be **slowed, suspended, terminated, or restricted** for misuse, abnormal use, interference with our network or ability to provide quality service to other users, or significant roaming. Unlimited high-speed data customers who use an extremely high amount of data in a bill cycle will have their data usage de-prioritized compared to other customers for that bill cycle at locations and times when competing network demands occur, resulting in relatively slower speeds. See t-mobile.com/Openinternet for details.

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SIMPLE MOBILE PLANS

NO-CONTRACT, NO HASSLE, MONEY-SAVING WIRELESS PLANS.

 Unlimited* Nationwide Plans	 Phone Upgrade Plans	 Unlimited* International Plans	 Wireless Data Plans	 Special Promotions
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UNLIMITED* NATIONWIDE PLANS:

\$25 UNLIMITED PLAN	\$40 UNLIMITED* PLAN	\$50 UNLIMITED* PLAN	\$55 UNLIMITED* PLAN
30 Service Days Unlimited Talk & Text Unlimited International Texting	2GB AT 4G LTE** 64 KBPS THEREAFTER 30 Service Days Unlimited Talk & Text Unlimited International Texting Add On Int'l Pay-As-You-Go Talk	4GB AT 4G LTE** 64 KBPS THEREAFTER 30 Service Days Unlimited Talk & Text Unlimited International Texting Add On Int'l Pay-As-You-Go Talk	10GB AT 4G LTE** 64 KBPS THEREAFTER 30 Service Days Unlimited Talk & Text Unlimited International Texting Add On Int'l Pay-As-You-Go Talk
SIGN UP (/WPS/PORTAL/HOME/SHOP/)	SIGN UP (/WPS/PORTAL/HOME/SHOP/)	SIGN UP (/WPS/PORTAL/HOME/SHOP/)	SIGN UP (/WPS/PORTAL/HOME/SHOP/)
ReUp This Plan (/wps/portal/home/reup/reup)	ReUp This Plan (/wps/portal/home/reup/reup)	ReUp This Plan (/wps/portal/home/reup/reup)	ReUp This Plan (/wps/portal/home/reup/reup)

*30 day Unlimited Plans include a fixed amount of high-speed data per 30 day cycle. If you reach the high-speed data threshold, your data speed will be reduced to as low as 64 kbps for the remainder of the 30 day cycle. If data speed is reduced, the reduced speed may impact the functionality of some data applications, such as streaming audio or video or web browsing. Other restrictions, terms, and conditions of service apply. Please see last Terms and Conditions of Service at SimpleMobile.com.

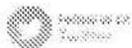
**Not available in all locations and require capable device and SIM card. Actual availability, coverage, and speed may vary. LTE is a trademark of ETSI.

† \$10 Pay-As-You-Go funds will remain valid for up to 30 days following an account deactivation date with a maximum life of 180 days on an active account. For a complete list of countries and rates, visit www.simplemobile.com/itd.

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Retailers ([/wps/portal/home/h/retailers/ut/p/a/04_Sj9CPykssyOxPLMnMzOvMAfGjzOJdDLx8jQMdPYyCzAwtdDwDfNzdxAX9JA1MzPULsh0VARton34/](#))

Contact Us ([/wps/portal/home/support/contactus/ut/p/a/04_Sj9CPykssyOxPLMnMzOvMAfGjzOJdDLx8jQMdPYyCPMxNDTWDPJyD3c39DEx8zPQLsh0VAWlbrz4/](#))

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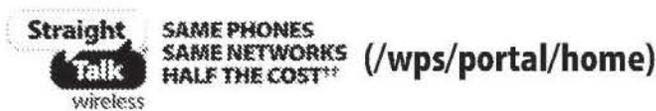
[Vendor Code \(/wps/portal/home/h/about/vendor-code/lut/p/a1/04_Sj9CPykssyOxPLMnMz0vMAfGjzOINAww9PZy9Dbwt3F0tDRxd_G0NXEwCjdONTRULsh0VAUs_egt/\)](#)

[Terms of Use \(/wps/portal/home/h/about/vendor-code/lut/p/a1/04_Sj9CPykssyOxPLMnMz0vMAfGjzOKdLAXDvCw8nB1NXcxDDz9zEJBJAwtdDw9DIULsh0VAIRuJIM/\)](#) [SIGN UP](#)

*30 day Unlimited Plans include a fixed amount of high-speed data per 30 day cycle. If you reach the high-speed data threshold, your data speed will be reduced to as low as 64 kbps for the remainder of 30 day cycle. If your data speed is reduced, the reduced speed may impact the functionality of some data applications, such as streaming audio or video or web browsing. Other restrictions, terms and conditions of service apply. **Not available in all locations and require capable device and SIM card. Actual availability, coverage, and speed may vary. LTE is a trademark of ETSI. † Each account is allowed to dial up to 10 unique international telephone numbers during a 30 day plan cycle, which resets after a new 30 day plan is redeemed. Unlimited international calls are available to landline and cellular numbers in select destinations only, which are subject to change at any time. Calls must originate from the US. No international roaming is allowed. For personal use only. Other terms and conditions apply. Please refer always to the latest Terms and Conditions of Service at SimpleMobile.com (<http://www.SimpleMobile.com>). Certain restrictions apply. Please see latest Terms and Conditions of Service at SimpleMobile.com (<http://www.SimpleMobile.com>). SIMPLE Mobile reserves the right to terminate your service for unauthorized or abnormal usage.

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EXHIBIT SEPARATOR PAGE



Español Serviceplans
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 14W9VL5MD/dIS/d5/L0IDUmITUSEhL3dHa0FKI

SERVICE PLANS

SERVICE PLANS

Just enter your phone number, pick your perfect plan, and check out! It's that easy!

- [TABLETS \(?\)](#)
- [HOME PHONE \(?\)](#)
- [HOTSPOT \(?\)](#)
- [REMOTE ALERT \(?\)](#)
- [CAR CONNECTION \(?\)](#)

Compare, contrast and choose your perfect plan

Enter Your Phone Number or Serial Number:

All Plans include Unlimited Nationwide Texts, calls to 411, and the option to Auto-Refill.

	All You Need	30-Day Unlimited Plan	Unlimited* International Plan	3-Month Unlimited Plan	6-Month Unlimited Plan	1-Year Unlimited Plan
PRICE	\$30	\$45	\$60	\$130	\$255	\$495
SERVICE DAYS	30 Days	30 Days	30 Days	90 Days	180 Days	365 Days
TALK	1500 Minutes Nationwide Talk, including calls to 411.	Unlimited Nationwide	Unlimited Nationwide, Unlimited Mobile to Mexico, China, India & Canada, and Unlimited calls to select International landline destinations	Unlimited Nationwide	Unlimited Nationwide	Unlimited Nationwide
DATA	100MB	First 5GB of Data at High Speed, and then at 2G*	First 5GB of Data at High Speed, and then at 2G*	First 5GB of Data at High Speed, and then at 2G*	First 5GB of Data at High Speed, and then at 2G*	First 5GB of Data at High Speed, and then at 2G*

*At 2G speeds, the functionality of some data applications such as streaming video or audio may be affected.
 ††To get 4G LTE speed, you must have a 4G LTE capable device and 4G LTE SIM. Actual availability, coverage and speed may vary. LTE is a trademark of ETSI.
 Please refer always to the Terms and Conditions of Service at [StraightTalk.com \(http://www.straighttalk.com\)](http://www.straighttalk.com).
 Your payment information will then be saved in your account, which will provide you with a quick and easy way to purchase Straight Talk Service Plans in the future.
 Please remember to use your Plan benefits before your Service End Date. These benefits don't rollover!
 † Multimedia messages require a positive balance of messages and megabytes of data.

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Boston, MA 02116 | [Change](http://localization.att.com/loc/controller?cdv=landinglocalization&pid=1090&localization-reset=true&return-path=http://www.att.com/shop/wireless/plans/dataplans.html)

Shop myAT&T Support

Log in (<http://www.att.com/accounts/?source=IC442514900s2000>)

Wireless (<http://www.att.com/shop/wireless.html>) Bundles (<http://www.att.com/shop/bundles.html>) Digital TV (<http://www.att.com/shop/tv.html>)

Home Phone (<http://www.att.com/shop/home-phone.html>) My Wireless Cart

U-verse (<http://www.att.com/shop/u-verse.html>) Digital Life (<http://www.att.com/shop/digital-life.html>)

Accessories (<http://www.att.com/shop/wireless/accessories.html>) Offers (<http://www.att.com/shop/special-offers.html>)

Shopping Help (<http://www.att.com/shop/help.html>)

Are you interested in unlimited voice minutes and text messages and would like to share your data?

Learn more about [AT&T Mobile Share](#)

AT&T DataConnect Plans

- Selection of plans for your data-only devices
- Includes access to almost 30,000 AT&T Wi-Fi hotspots nationwide

If you need a data plan for a smartphone or connected wearable, or if you want a plan with shareable data, [learn about Mobile Share Value plans](#).

DataConnect plans for:

Tablets, cameras, and gaming devices

Data	Monthly plan charges	AT&T Wi-Fi access	Domestic overage fees	Data roaming – Canada	Data roaming – international	
DataConnect 250MB	\$14.99	✓	\$14.99 per 250 MB	\$0.015/KB	\$0.0195/KB	<input type="button" value="Add"/> View details
DataConnect 3GB	\$30.00	✓	\$10.00 per 1 GB	\$0.015/KB	\$0.0195/KB	<input type="button" value="Add"/> View details
DataConnect 5GB	\$50.00	✓	\$10.00 per 1 GB	\$0.015/KB	\$0.0195/KB	<input type="button" value="Add"/> View details

DataConnect plans for:

Netbooks, notebooks, mobile hotspots, and USB modems

Data	Monthly plan charges	AT&T Wi-Fi access	Domestic overage fees	Data roaming – Canada	Data roaming – international	
DataConnect 5GB	\$50.00	✓	\$10.00 per 1 GB	\$0.015/KB	\$0.0195/KB	<input type="button" value="Add"/> View details

DataConnect plans for:

Automotive and smart locator devices*

Data	Monthly plan charges	AT&T Wi-Fi access	Domestic overage fees	Data roaming – Canada	Data roaming – international	
Location Services	\$10.00		None	None	None	<input type="button" value="Add"/> View details

*These devices include automotive devices without built-in in-vehicle wireless connectivity and eligible smart locators.

DataConnect Plans: Monthly plan pricing for domestic service only. **Devices:** Plans require a compatible device, sold separately. Excludes smartphones. **Payments:** Monthly charges are billed to your account. If you purchased a device that requires a term commitment, an early termination fee applies if you cancel service after the first 14 days, and before your term ends. **For devices with no annual service contract, your plan automatically renews each month unless you cancel service prior to the start of the monthly renewal.** Cancel any time by going online to [mvatt.com](http://www.mvatt.com) or calling 800.331.0500. **Data**